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BULLETIN

1 AUG 1940
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OF THE

BRITISH ORNITHOLOGISTS' CLUB.

EDITED BY

CAPT. C. H. B. GRANT.

VOLUME LX.

SESSION 1939–1940.

LONDON:

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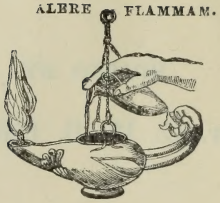

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BRITISH MUSEUM
NATURAL HISTORY

PREFACE.

The number of attendances during the past Session was :— 120 members, 24 members of the B. O. U., and 70 guests— a total of 214.

Dr. A. Landsborough Thomson, the Chairman of the Club, gave his annual address at the December Meeting, dealing with general matters and a Regional Review from November 1 1938, to October 31, 1939.

Among the many interesting communications and exhibitions given during the Session were: the Hon. G. L. Charteris's exhibition of Divergent Types of European Cuckoo Eggs ; Mr. James Fisher's remarks on the World Distribution and Numbers of Breeding Gannets and on the Status of the Fulmar in the British Isles ; Mr. B. Guy Harrison's visit to the Magdalen Islands ; Mr. David Jack's account of his Expedition to the Galapagos Islands ; Dr. G. Carmichael Low's exhibitions of a Hybrid Gadwall and Wigeon ; Mr. J. D. Macdonald's talk on his Ornithological Expedition to the Sudan ; Dr. A. Landsborough Thomson's remarks on Periodicity in the Life of Birds ; Mr. B. W. Tucker's Bird Observations in Sweden and Gotland.

Films, slides, and photographs were shown by Mr. Guy B. Farrar, Mr. Eric Hosking, Miss Cynthia Longfield, Mr. J. D. Macdonald, and Mr. P. I. R. Maclaren.

New forms were described by Colonel F. O. Cave, Mr. F. N. Chasen, Capt. C. H. B. Grant, Mr. N. B. Kinnear, Dr. Andrew Kleiner, Mr. J. D. Macdonald, Mr. C. W. Mackworth-Praed, Mr. R. E. Moreau, Mr. R. H. W. Pakenham, Dr. C. B. Ticehurst, and Mr. Hugh Whistler.

The Club entertained as distinguished guests: Mr. David Lack, Dr. Lambert Lack, and Mr. P. I. R. Maclaren.

CLAUDE H. B. GRANT,
Editor.

London, July 1940.

BRITISH ORNITHOLOGISTS' CLUB.

(Founded October 5, 1892.)

TITLE AND OBJECTS.

The objects of the Club, which shall be called the "British Ornithologists' Club," are the promotion of social intercourse between Members of the British Ornithologists' Union and to facilitate the publication of scientific information connected with ornithology.

RULES.

(*As amended, October* 12, 1938.)

Management.

I. The affairs of the Club shall be managed by a Committee, to consist of a Chairman, who shall be elected for three years, at the end of which period he shall not be eligible for re-election for the next term; two Vice-Chairmen, who shall serve for one year, and who shall not be eligible for the next year; an Editor of the 'Bulletin,' who shall be elected for five years, at the end of which period he shall not be eligible for re-election for the next term; a Secretary and a Treasurer, who shall each be elected for a term of one year, but who shall be eligible for re-election. There shall be in addition four other Members, the senior of whom shall retire each year, and another Member be elected in his place; every third year the two senior Members shall retire and two other Members be elected in their place. Officers and Members of the Committee shall be elected by the Members of the Club at a General Meeting, and the names of such Officers and Members of Committee nominated by the Committee for the ensuing year shall be circulated with the notice convening the General Meeting at least two weeks before the Meeting. Should any Member wish to propose another candidate, the nomination of such, signed by at least two Members, must reach the Secretary at least one clear week before the Annual General Meeting.

II. Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted must communicate in writing with the Chairman, who will, if he deem fit, call a Committee Meeting to deal with the matter.

III. If the conduct of any Member shall be deemed by the Committee to be prejudicial to the interests of the Club, he may be requested by the Committee to withdraw from the Club. In the case of refusal, his name may be removed from the list of Members at a General Meeting, provided that, in the notice calling the Meeting, intimation of the proposed resolution to remove his name shall have been given, and that a majority of the Members voting at such Meeting record their votes for his removal.

Subscriptions.

IV. Any Member of the British Ornithologists' Union may become a Member of the Club on payment to the Treasurer of an entrance-fee of one pound and a subscription of one guinea for the current Session. On Membership of the Union ceasing, Membership of the Club also ceases.

Any Member who has not paid his subscription before the last Meeting of the Session shall cease, *ipso facto*, to be a Member of the Club, but may be reinstated on payment of arrears.

Any Member who has resigned less than five years ago may be reinstated without payment of another Entrance Fee.

Any Member who resigns his Membership on going abroad may be readmitted without payment of a further Entrance Fee at the Committee's discretion.

Temporary Associates.

V. Members of the British Ornithologists' Union who are ordinarily resident outside the British Isles, and ornithologists from the British Empire overseas or from foreign countries, may be admitted at the discretion of the Committee as Temporary Associates of the Club for the duration of any visit to the British Isles not exceeding one Session. An entrance fee of five shillings shall be payable in respect of every such admission

if the period exceeds three months. The privileges of Temporary Associates shall be limited to attendance at the ordinary meetings of the Club and the introduction of guests.

Meetings.

VI. The Club will meet, as a rule, on the second Wednesday in every month, from October to June inclusive, at such hour and place as may be arranged by the Committee, but should such Wednesday happen to be Ash Wednesday, the Meeting will take place on the Wednesday following. At these Meetings papers upon ornithological subjects will be read, specimens exhibited and described, and discussion invited.

VII. A General Meeting of the Club shall be held on the day of the October Meeting of each Session, and the Treasurer shall present thereat the Balance-sheet and Report; and the election of Officers and Committee, in so far as their election is required, shall be held at such Meeting.

VIII. A Special General Meeting may be called at the instance of the Committee for any purpose which they deem to be of sufficient importance, or at the instance of not fewer than fifteen Members. Notice of not less than two weeks shall be given of every General and Special General Meeting.

Introduction of Visitors.

IX. Members may introduce visitors at any ordinary Meeting of the Club, but the same guest shall not be eligible to attend on more than three occasions during the Session. No former Member who has been removed for non-payment of subscription, or for any other cause, shall be allowed to attend as a guest.

'Bulletin' of the Club.

X. An Abstract of the Proceedings of the Club shall be printed as soon as possible after each Meeting, under the title of the 'Bulletin of the British Ornithologists' Club,' and shall be distributed gratis to every Member who has paid his subscription.

Contributors are entitled to six free copies of the ' Bulletin,' but if they desire to exercise this privilege they must give notice to the Editor when their manuscript is handed in. Members purchasing extra copies of the ' Bulletin ' are entitled to a rebate of 25 per cent. on the published price, but not more than two copies can be sold to any Member unless ordered before printing.

Descriptions of new species may be published in the ' Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at the discretion of the Editor and so long as the publication of the ' Bulletin ' is not unduly delayed thereby.

Any person speaking at a Meeting of the Club shall be allowed subsequently—subject to the discretion of the Editor—to amplify his remarks in the ' Bulletin,' but no fresh matter shall be incorporated with such remarks.

XI. No communication, the whole or any important part of which has already been published elsewhere, shall be eligible for publication in the ' Bulletin,' except at the discretion of the Editor ; and no communication made to the Club may be subsequently published elsewhere without the written sanction of the Editor.

Alteration and Repeal of Rules.

XII. Any suggested alteration or repeal of a standing rule shall be submitted to Members to be voted upon at a General Meeting convened for that purpose.

COMMITTEE, 1939-1940.

Dr. A. Landsborough Thomson, *Chairman.* Elected 1938.
Mr. W. L. Sclater, *Vice-Chairman.* Elected 1939.
Dr. D. A. Bannerman, *Vice-Chairman.* Elected 1939.
Capt. C. H. B. Grant, *Editor.* Elected 1935.
Mr. C. R. Stonor, *Hon. Secretary.* Elected 1938.
Major A. G. Lambart Sladen, *Hon. Treasurer.* Elected 1936.
Miss E. P. Leach. Elected 1937.
Mr. H. Leyborne Popham. Elected 1937.
Mr. P. A. D. Hollom. Elected 1938.
Mr. H. J. R. Pease. Elected 1939.

Officers of the British Ornithologists' Club, Past and Present.

Chairmen.

P. L. Sclater, F.R.S.	1892–1913.
Lord Rothschild, F.R.S.	1913–1918.
W. L. Sclater.	1918–1924.
H. F. Witherby.	1924–1927.
Dr. P. R. Lowe.	1927–1930.
Major S. S. Flower.	1930–1932.
D. A. Bannerman.	1932–1935.
G. M. Mathews.	1935–1938.
Dr. A. Landsborough Thomson.	1938–

Vice-Chairmen.

Lord Rothschild, F.R.S.	1930–1931.
W. L. Sclater.	1931–1932.
H. F. Witherby.	1932–1933.
G. M. Mathews.	1933–1934.
N. B. Kinnear.	1934–1935.
H. Whistler.	1935–1936.
D. Seth-Smith.	1936–1937.
Col. R. Sparrow.	1937–1938.
Dr. G. Carmichael Low.	1938–1939.
Hon. Guy Charteris.	1938–1939.
W. L. Sclater.	1939–1940.
Dr. D. A. Bannerman.	1939–1940.

Editors.

R. Bowdler Sharpe.	1892–1904.
W. R. Ogilvie-Grant.	1904–1914.
D. A. Bannerman.	1914–1915.
D. Seth-Smith.	1915–1920.
Dr. P. R. Lowe.	1920–1925.
N. B. Kinnear.	1925–1930.
Dr. G. Carmichael Low.	1930–1935.
Captain C. H. B. Grant.	1935–1940.

Honorary Secretaries and Treasurers.

Howard Saunders.	1892–1899.
W. E. de Winton.	1899–1904.
H. F. Witherby.	1904–1914.
Dr. P. R. Lowe.	1914–1915.
C. G. Talbot-Ponsonby.	1915–1918.
D. A. Bannerman.	1918–1919.
Dr. Philip Gosse.	1919–1920.
J. L. Bonhote.	1920–1922.
C. W. Mackworth-Praed.	1922–1923.
Dr. G. Carmichael Low.	1923–1929.
C. W. Mackworth-Praed.	1929–1935.

Honorary Secretaries.

Dr. A. Landsborough Thomson.	1935–1938.
C. R. Stonor.	1938–1940.

Honorary Treasurers.

C. W. Mackworth-Praed.	1935–1936.
Major A. G. L. Sladen.	1936–

LIST OF MEMBERS.

JUNE 1940.

ACLAND, Miss C. M. ; Walwood, Banstead, Surrey.

ALEXANDER, H. G. ; 144 Oak Tree Lane, Selly Oak, Birmingham.

ALEXANDER, W. B., M.A. ; Dept. of Zoology University Museum, Oxford.

AYLMER, Commdr. E. A., R.N. ; Wyke Oliver, Preston, Dorset.

BAKER, E. C. STUART, C.I.E., O.B.E., F.L.S., H.F.A.O.U. ; 6 Harold Road, Upper Norwood, S.E. 19.

BANNERMAN, DAVID A., M.B.E., Sc.D., F.R.S.E. (*Chairman*, 1932–1935) (*Vice-Chairman*) ; British Museum (Natural History), Cromwell Road, S.W. 7 ; and 7 Pembroke Gardens, Kensington, W. 8.

BARCLAY-SMITH, Miss P. ; Park Lodge, Hervey Road, Blackheath, S.E. 3

BARNES, Mrs. R. G. ; Hungerdown, Seagry, Wilts.

BARRINGTON, FREDERICK J. F., M.S., F.R.C.S. ; 42 Harley Street, W. 1.

BENSON, C. W. ; c/o Secretariat, Zomba, Nyasaland.

BEST, Miss M. G. S. ; 10 A Cresswell Place, S.W. 10.

BOORMAN, S. ; Heath Farm, Send, Woking, Surrey.

BOOTH, H. B. ; Ryhill, Ben Rhydding, Yorks.

BOYD, A. W., M.C. ; Frandley House, near Northwich, Cheshire.

BROWN, GEORGE ; Combe Manor, Hungerford, Berks.

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CAMPBELL, Dr. JAMES W. ; Layer Marney Hall, Kelvedon, Essex.

CAVE, Colonel F. O. ; Stoner Hill, Petersfield, Hants.

CHAPIN, Dr. JAMES P. ; Musée du Congo, Tervueren, Belgium ; and American Museum of Natural History, Central Park, New York City, U.S.A.

Chapman, F. M. ; American Museum of Natural History, Central Park, New York City, U.S.A.

Charteris, Hon. G. L. ; 24 Oxford Square, W. 2.

Chasen, Frederick N. ; Raffles Museum, Singapore.

Chislett, Ralph ; Larkspur, 42 Broom Crescent, Rotherham, Yorks.

Clancey, P. A. ; 9 Craig Road, Cathcart, Glasgow, S. 4.

Clarke, Brig.-General Goland van Holt, C.M.G., D.S.O. ; Maudlyn House, Steyning, Sussex.

Clarke, John P. Stephenson ; Broadhurst Manor, Horsted Keynes, Sussex.

Clarke, Col. Stephenson Robert, C.B. ; Borde Hill, Cuckfield, Sussex.

Cleave, Henry P. O. ; Mansfield House, Kendrick Road, Reading.

Conover, H. B. ; 6 Scott Street, Chicago, Illinois, U.S.A.

Cunningham, Josias ; Drinagh, Kensington Road, Knock, Belfast.

Cunynghame, H. D. ; 34 St. James's Street, London, S.W. 1.

Delacour, Jean ; Chateau de Clères, Clères, Seine-Inférieure, France.

Dewhurst, Major F. W. ; Manor Side, Ochlynge, Eastbourne.

Dobie, William Henry, M.R.C.S. ; 32 St. Martin's Fields, Chester.

Duncan, Arthur Bryce ; Gilchristlands, Closeburn, Dumfriesshire.

Ellis, H. W. ; Friary Hill, Weybridge, Surrey.

Ellis, Ralph, F.L.S. ; 2420 Ridge Road, Berkeley, California, U.S.A.

Ezra, A., O.B.E. ; Foxwarren Park, Cobham, Surrey.

Ferrier, Miss Judith M. ; Blakeney Downs, Blakeney, Norfolk.

Fisher, James ; Zoological Gardens, Regent's Park, N.W. 8.

Fisher, Kenneth ; School House, Oundle, Northamptonshire.

Flower, Major S. S. (*Chairman*, 1930–1932) ; 27 Park Road, Tring, Herts.

Foulkes-Roberts, Captain P. R., M.C. ; Westwood, Goring-on-Thames, Oxon ; and c/o The Administrator of the Colony, Lagos, Nigeria.

Gilbert, H. A. ; Bishopstone, near Hereford.

Glegg, W. E. ; 2 Burlington House, King's Road, Richmond, Surrey.

Glenister, A. G. ; The Barn House, East Blatchington, Seaford, Sussex.

Godman, Miss Eva ; South Lodge, Horsham, Sussex.

Grant, Captain C. H. B. (*Editor of the 'Bulletin'*) ; The Cottage, 15 A Emperor's Gate, S.W. 7.

Gyldenstolpe, Count Nils ; Royal (Natural History) Museum, Stockholm, Sweden.

Hachisuka, The Marquess ; Mitashiba, Tokyo, Japan.

Haigh, George Henry Caton ; Grainsby Hall, Great Grimsby, Lincolnshire.

Hale, Rev. James R., M.A. ; Yalding Vicarage, Maidstone, Kent.

Harrison, Bernard Guy ; 45 St. Martin's Lane, W.C. 2.

Harrison, James M., D.S.C., M.R.C.S., L.R.C.P. ; Bowerwood House, St. Botolph's Road, Sevenoaks, Kent.

Heath, R. E. ; 2 Pembroke Court, Edwardes Square, W. 8.

Hett, Geoffrey Seccombe, M.B., F.R.C.S. ; 86 Brook Street, Grosvenor Square, W. 1.

Hodgkin, Mrs. T. Edward ; Old Ridley, Stocksfield, Northumberland.

Hollom, P. A. D. (*Committee*) ; Rolverden, Hook Heath, Woking, Surrey.

Hopkinson, Emilius, C.M.G., D.S.O., M.B. ; Wynstay, Balcombe, Sussex.

Hutson, Lieut-Col. H. P. W., R.E. ; Chatham House, Rome Gardens, Abassia, Cairo, Egypt.

Inglis, C. McFarlane ; Natural History Museum, Darjiling, India.

Ingram, Capt. Collingwood ; The Grange, Benenden, Cranbrook, Kent.

Jabouille, Pierre ; Chateau de Clères, Clères, Seine-Inférieure, France.

James, Miss Celia K., Blake's Wood, Barnt Green, Worcester.

Jeffrey, T. C. ; Thorpe Grange, Ashbourne, Derbyshire.

Jordan, Dr. Karl ; Zoological Museum, Tring, Herts.

Joy, Norman H., M.R.C.S., L.R.C.P. ; Dungeness, Kent.

Kinnear, Norman B. ; British Museum (Natural History), Cromwell Road, S.W. 7.

Kuroda, Dr. Nagamichi ; Fukuyoshi Cho, Akasaka, Tokyo, Japan.

Leach, Miss E. P. (*Committee*) ; 17 Hereford Square, S.W. 7.

Lewis, John Spedan ; Leckford Abbess, Stockbridge, Hants.

Lloyd, Bertram ; 53 Parkhill Road, London, N.W. 3.

Longfield, Miss Cynthia ; 20 Pont Street, S.W. 1.

Low, George Carmichael, M.D., C.M., F.R.C.P. ; Kent House, Kensington Court, Kensington, W. 8.

Lowe, P. R., O.B.E., M.B., B.C. (*Chairman*, 1927–1930) ; British Museum (Natural History), Cromwell Road, S.W. 7.

Lynes, Rear-Admiral Hubert, R.N., C.B., C.M.G. ; 57 Victoria Road, Kensington, W. 6.

Mackenzie, John M. D., B.A., C.M.Z.S. ; Sidlaw Fur Farm, Tullach Ard, Balbeggie, Perthshire.

McKittrick, T. H. ; Bank for International Settlements, Basle, Switzerland.

Mackworth-Praed, C. W. ; Castletop, Burley, nr. Ringwood, Hants.

Macmillan, Captain W. E. F. ; 42 Onslow Square, S.W. 7.

McNeile, J. H. ; Nonsuch, Bromham, Chippenham, Wilts.

Macpherson, D. W. K. ; P.O., Lilongwe, Nyasaland.

Magrath, Lieut.-Colonel H. A. F. ; 19 A Cygnet House, King's Road, S.W. 3.

Mansfield, The Right Hon. the Earl of ; Scone Palace, Perth.

Manson-Bahr, P. H., D.S.O., M.D., F.R.C.P. ; 149 Harley Street, W. 1.

Mathews, G. M., C.B.E., F.R.S.E., H.F.A.O.U. (*Chairman*, 1935–1938) ; Meadway, St. Cross, Winchester, Hants.

Mavrogordato, J. G. ; Mariners, Westerham, Kent.

May, W. Norman, M.D. ; The White House, Sonning, Berks.

Mayaud, Noël ; Le Lys, par le Puy-Notre-Dame, Maine-et-Loire, France.

Meiklejohn, Col. R. F., D.S.O. ; c/o Lloyds Bank (F 2), 6 Pall Mall, S.W. 1.

Meinertzhagen, Colonel R., D.S.O. ; 17 Kensington Park Gardens, W. 8.

Micholls, Mrs. Dorothy ; Silver Birches, Wentworth, Virginia Water, Surrey.

Momiyama, Toku Taro ; 1146 Sasazka, Yoyohata-mati, Tokyo, Japan.

Munn, P. W. ; Puerto Alcudia, Majorca, Balearic Isles, Spain.

Murton, Mrs. C. D. ; Cranbrook Lodge, Cranbrook, Kent.

Musselwhite, D. W. ; 59 Mayford Road, Wandsworth Common, S.W. 12.

Naumburg, Mrs. W. W. ; 121 East 64th Street, New York City, U.S.A.

Newman, T. H. ; Verulam, 46 Forty Avenue, Wembley Park, Middlesex.

Nicholson, E. M. ; 13 Upper Cheyne Row, S.W. 3.

North, M. E. W. ; c/o Secretariat, Nairobi, Kenya.

Oldham, Chas. ; Oxfield, Berkhamsted, Herts.

Osmaston, Bertram Beresford ; 10 Collingwood Terrace, Westgate-on-Sea, Kent.

Pakenham, R. H. W. ; Kingsley, Hurtis Hill, Crowborough, Sussex ; and c/o Secretariat, Zanzibar, Eastern Africa.

Paulson, C. W. G. ; Woodside Cottage, Wheeler's Lane, Smallfield, Surrey.

Peall, Mrs. Oscar ; Oare, Marlborough, Wilts.

Pease, H. J. R. (*Committee*) ; The Savile Club, 69 Brook Street, W. 1.

Phillips, A. S. ; Frewin's Close, South Stoke, Reading, Berks.

Pitman, Capt. C. R. S., D.S.O., M.C. ; c/o Grindlay & Co., 54 Parliament Street, S.W. 1.

Popham, Hugh Leyborne, M.A. (*Committee*) ; Hunstrete House, Pensford, Somerset.

PRIESTLEY, Mrs. MARY; 3 The Grove, Highgate Village, N. 6.

RHODES, Miss G. M.; Hildersham Hall, Cambridge.

RICKETT, C. B.; 27 Kendrick Road, Reading, Berks.

RIVIÈRE, B. B., F.R.C.S.; The Old Hall, Woodbastwick, Norfolk.

ROOKE, K. B.; 18 Wharncliffe Road, Boscombe, Bournemouth, Hants.

SANDEMAN, R. G. C. C.; Dan-y-parc, Crickhowell, Brecon.

SCHAUENSEE, R. M. DE; Devon, Pennsylvania, U.S.A.

SCHOUTEDEN, Dr. H.; Musée du Congo, Tervueren, Belgium.

SCLATER, WILLIAM LUTLEY, M.A. (*Chairman*, 1918–1924) (*Vice-Chairman*); 10 Sloane Court, S.W. 3.

SETH-SMITH, DAVID; "Brabourne," Poyle Road, Guildford.

SHERRIFF, ALBERT; 8 Ranulf Road, Hampstead, N.W. 2.

SIMONDS, Major MAURICE H.; Fines Baylewick, Binfield, Berks.

SLADEN, Major A. G. LAMBART, M.C. (*Treasurer*); Horsenden Manor, Princes Risborough, Bucks; and 39 St. James's Street, S.W. 1.

SPARROW, Col. R., C.M.G., D.S.O.; The Lodge, Colne Engaine, Earls Colne, Essex.

STARES, J. W. C.; Portchester, Hants.

STEUART, Mrs. RONALD; The Old Rectory, North Fambridge, Chelmsford, Essex.

STEVENS, HERBERT; Clovelly, Beaconsfield Road, Tring. Herts.

STEVENS, NOËL; Walcot Hall, Lydbury North, Salop.

STONOR, C. R. (*Hon. Secretary*); British Museum (Natural History), Cromwell Road, S.W. 7.

TAKA-TSUKASA, Prince NOBUSUKE; 1732 Sanchome, Kamimeguro, Meguro-Ku, Tokyo, Japan.

THOMSON, A. LANDSBOROUGH, C.B., O.B.E., D.Sc., F.R.S.E. (*Chairman*); 16 Tregunter Road, S.W. 10.

TICEHURST, CLAUD B., M.A., M.R.C.S.; Saxon House, Appledore, Kent.

TICEHURST, N. F., O.B.E., M.B., F.R.C.S.; 24 Pevensey Road, St. Leonards-on-Sea, Sussex.

TUCKER, B. W., M.A.; 9 Marston Ferry Road, Oxford.

TURNER, Miss E. L.; The Half Way Cottage, 13 Storey's Way, Cambridge.

135 TURTLE, LANCELOT J.; 17–21 Castle Place, Belfast.

URQUHART, Capt. ALASTAIR, D.S.O.; Latimer Cottage, Latimer, Chesham, Bucks.

VAN SOMEREN, Dr. V. G. L.; East Africa and Uganda Natural History Society, Coryndon Memorial Museum, Nairobi, Kenya Colony, East Africa.

VINCENT, J.; "Firle," Mooi River, Natal, South Africa.

WADE, Major G. A., M.C.; St. Quintin, Sandy Lane, Newcastle-under-Lyme, Staffs.

140 WAIT, W. E., C.M.G., C.F.A.O.U.; Applegarth, Aldbury, near Tring, Herts.

WAITE, HERBERT WILLIAM; c/o Messrs. Grindlay & Co., Ltd., Bombay, India.

WALLIS, H. M.; 110 Kendrick Road, Reading, Berks.

WARE, R.; Leafwood, Frant, Tunbridge Wells, Kent.

WATT, Mrs. H. W. BOYD; "Heathersett," 35 Knyveton Road, Bournemouth, Hants.

145 WHISTLER, HUGH, F.L.S.; Caldbec House, Battle, Sussex.

WHITE, CHARLES M. N.; Park-View, Garstang Road, Broughton, near Preston, Lancs.

WHITLEY, H.; Primley, Paignton, S. Devon.

WISHART, E. E.; Marsh Farm, Binsted, Arundel, Sussex.

WITHERBY, HARRY F., M.B.E. (*Chairman*, 1924–1927); Gracious Pond Farm, Chobham, near Woking, Surrey.

150 WOOD, CASEY A., M.D.; c/o The Library of Ornithology, McGill University, Montreal, Canada.

WORKMAN, WILLIAM HUGHES; Lismore, Windsor Avenue, Belfast.

WORMS, CHARLES DE; Milton Park, Egham, Surrey.

YAMASHINA, The MARQUIS; 49 Minami Hiradei, Shikuya-ku, Tokyo, Japan.

Total number of Members 153

NOTICE.

[Members are specially requested to keep the Hon. Secretary informed of any changes in their addresses, and those residing abroad should give early notification of coming home on leave.]

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BULLETIN

20 NOV 1939
PURCHASED

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXV.

ANNUAL GENERAL MEETING.

Chairman : Dr. A. Landsborough Thomson.

This was held at the Rembrandt Hotel at 6 p.m. on Wednesday, October 11, 1939.

Mr. N. B. Kinnear submitted a Report on behalf of the Hon. Secretary. He said that the number of members remained the same, at 169, and that the usual meetings had been held. The total attendances were 548, which was 48 more than the previous year. The Report was approved.

A Financial Report by Major A. G. Lambart Sladen, the Hon. Treasurer, was read. An exact statement was not yet available, but would be circulated later in the 'Bulletin.' The Report was approved, subject to audit of the accounts.

Mr. W. L. Sclater and Dr. D. A. Bannerman were elected Vice-Chairmen in place of Dr. G. Carmichael Low and the Hon. G. L. Charteris, whose period of office terminated.

Mr. C. R. Stonor was re-elected Hon. Secretary, and Mr. N. B. Kinnear agreed to act during his absence.

Major A. G. L. Sladen was re-elected Hon. Treasurer.

Mr. H. J. R. Pease was elected as a member of the Committee in place of Mr. W. B. Alexander.

It was proposed by the Committee that the meetings should in future he held at 6 p.m., preceding the dinner at 7 p.m. This was agreed to as a temporary measure during the winter months, owing to the difficulty of getting about after dark.

Committee 1939–40.

Dr. A. Landsborough Thomson, *Chairman* (elected 1938).
Mr. W. L. Sclater, *Vice-Chairman* (elected 1939).
Dr. D. A. Bannerman, *Vice-Chairman* (elected 1939).
Captain C. H. B. Grant, *Editor* (elected 1935).
C. R. Stonor, *Hon. Secretary* (elected 1938).
Major A. G. Lambart Sladen, *Hon. Treasurer* (elected 1936).
Miss E. P. Leach (elected 1937).
Mr. H. Leyborne Popham (elected 1937).
Mr. P. A. D. Hollom (elected 1938).
Mr. H. J. R. Pease (elected 1939).

ORDINARY MEETING.

The four-hundred and twentieth Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, October 11, 1939.

Chairman : Dr. A. Landsborough Thomson.

Members present :—F. J. F. Barrington ; Hon. G. Charteris ; Miss J. M. Ferrier ; J. Fisher ; Capt. C. H. B. Grant (*Editor*) ; B. G. Harrison ; Dr. E. Hopkinson ; Rev. F. C. R. Jourdain ; N. B. Kinnear (*Acting Hon. Sec.*) ; Miss E. P. Leach ; Dr. G. Carmichael Low ; Rear-Admiral H. Lynes ; J. D. Macdonald ; Dr. P. Manson-Bahr ; T. H. Newman ; Miss G. M. Rhodes ; Dr. B. B. Rivière ; D. Seth-Smith ; C. G. M. de Worms.

Members : 20.

An Ornithological Expedition to the Sudan.

Mr. J. D. Macdonald gave a talk as follows on his trip to the Sudan, and showed a large number of photographs :—

About the end of last session I was on my way back from a bird-collecting expedition to the southern Sudan. Though my duties as a member of the staff of the Natural History Museum are primarily curatorial, I had been given the opportunity to gain field experience,

Financial Statement for the 13 *months September* 1, 1938, *to September* 30, 1939.

12 m'ths ended Aug. 31, 1938.									
£	s.	d.		£	s.	d.	£	s.	d.
			To Balance in Hand, September 1, 1938 :—						
90	7	1	Cash at Bank, Current a/c .	139	0	10			
254	8	5	Do. Deposit a/c .	255	13	4			
400	0	0	500 National Savings Certificates at cost, held by Bank	400	0	0			
0	16	3	Cash in Hands of Treasurer.	1	12	0			
							796	6	2
4	0	0	,, Entrance Fees of 6 New Subscribers	6	0	0			
173	5	0	,, Subscriptions of 168 Members.	176	8	0			
1	1	0	,, Subscriptions in advance ...	2	2	0			
1	0	0	,, Entrance Fees in advance ..	1	0	0			
							185	10	0
62	7	9	,, Sales of 'Bulletin'				53	11	10
			,, War Loan Interest		....		4	9	10
1	4	11	,, Bank Interest				0	10	6
£988	10	5					£1,040	8	4

12 m'ths ended Aug. 31, 1938.									
£	s.	d.		£	s.	d.	£	s.	d.
			By Printing and Distribution of						
134	4	6	Publications and 'Bulletin.'				154	7	7
			,, Printing Proceedings of the Ornithological Congress ..				50	0	0
13	4	8	,, Hire of Lanterns at Meetings, &c.				28	16	0
5	5	11	,, H. B. Usher for compiling and arranging Index of 'Bulletin' B. O. C., 1938/39				6	6	8
20	4	8	,, Miscellaneous Expenditure, including Audit Fee, Printing, Stationery, and Postages ..				22	2	2
9	4	6	,, Royal Geographical Society— Hire of Hall				9	4	6
10	0	0	,, Miss W. T. Raikes—Payment *re* the Protection of the Kite in Wales					....	
			,, Zoological Society—						
			1937/38	21	0	0			
			1938/39	10	10	0			
							31	10	0
			,, Balance in Hand, September 30, 1939 :—						
139	0	10	Cash at Bank, Current a/c .	79	10	7			
255	13	4	Do. Deposit a/c .	1	10	6			
400	0	0	500 National Savings Certificates at cost, held by Bank.	400	0	0			
			,, £256 14 1 3½% War Loan ..	255	13	4			
1	12	0	Cash in Hands of Treasurer...	1	7	0			
							738	1	5
£988	10	5					£1,040	8	4

A. G. LAMBART SLADEN, *Hon. Treasurer.*

We have examined the foregoing Account with the Books and Vouchers of the British Ornithologists' Club for the 13 months ended September 30, 1939, and certify it to be in accordance therewith. We have also verified the Cash at Bank and the holding of National Savings Certificates and 3½% War Loan.

23 Queen Victoria Street, London, E.C. 4.
October 25, 1939.

W. B. KEEN & CO.,
Chartered Accountants.

To-night I should like to tell you a little about that expedition. I want to be brief, and not too technical.

Col. F. O. Cave, who is known to most of you, started it. We had hoped to be here together to-night, and I am sure he would wish me to apologise for his absence. The identification of a large collection made by him in the southern Sudan, and presented to the Museum, revealed the fact that certain areas would probably repay more intensive study. Col. Cave was unable to undertake this himself, and suggested that I should do it. The suggestion had the sanction and support of the Museum Trustees and of the Sudan Government.

Perhaps I should admit here that even now I make no claim to be a field ornithologist. About a year ago I was on a Nile steamer between Khartoum and Juba with a large quantity of collecting equipment, including guns and a rifle, the use of which I had practically no knowledge. I had only fired a light shot-gun about three times. Perhaps it was a good omen that under quite difficult conditions I shot a crocodile while it was basking on a muddy bank. It was some weeks later before I was shown how to sight the rifle. But it had belonged to that most famous of African big-game hunters, Captain Frederick Selous, and probably, like the tippler's pony which would not be driven past a public house, the rifle refused to fire wide.

The areas which for various reasons we thought would repay more careful study are several mountain groups lying in the extreme south-east corner of the Sudan. The Imatong and Dongotona Mountains and the Didinga Hills lie on the Sudan border of Kenya and Uganda, and the Boma Hills are close to Abyssinia, much further away. The first three in particular form one of the many rather heterogeneous units which go to make up the Anglo-Egyptian Sudan. They are quite different to everything else. Therein lay the possibility of finding interesting birds.

These groups of mountains are literally islands in a wide expanse of flat country, which in the main is flooded during part of the year, and for the remainder is exceedingly dry, and in which vegetation is not very luxuriant. But above a certain altitude conditions are such as to maintain very

dense forest. In the eastern limits, in particular, the cap of forest on the mountain tops is very striking. To me it seemed rather topsy-turvy to climb from barren plains and bone-dry watercourses into a region of streams and damp luxuriant forests. It was the birds of these forests in which I was particularly interested.

Very roughly the Imatong Mountains cover an area of 1000 square miles, and rise quite abruptly to over 10,000 feet from about a 4000-foot plain. I spent about six weeks there, collecting at various altitudes. On the first day of this year I was on the top of the highest peak, Mount Kineti. The commonest birds there were migrating Pipits. I camped within sight of this mountain, at 9000 feet, for about three weeks. The place was called Kipia. All that was there were two rather weather-beaten mud and wattle huts, remaining to testify to a former D.C.'s love for the high hills.

Kipia was a first love, and I became very attached to it, though I arrived there cold and wet on Christmas day of last year, and had a miserably lonely dinner of sardines and tea. The scenery was very homely, though it was lacking in lochs. There was often hoar frost on the ground vegetation. I thrived under these conditions, though most of my camp developed chest colds. A native soldier lent me by Cave, and on whom I relied for keeping the camp together, had a temperature of over 100° for two days. It nearly resulted in a general strike. For all that, I became familiar with most of the birds, and made a representative collection.

There is an amusing story about a rain-gauge which Cave asked me to set up at Kipia. I had it officially unveiled on the first day of January, and as I could not return there myself on the 1st of February I arranged with an ex-soldier to come up from his village and change the bottles, taking the used one to Cave's headquarters at Torit, some two or three days' journey away. He was thoroughly drilled in the changing of the bottles, and particularly impressed with the necessity of not interfering with the quantity of water, even at the risk of incurring the wrath of his rain-gods. We know for a fact that there had been very little rain at Kipia after I left, but I was told that the native appeared at Torit with a record of

about two or three hundred inches—the bottle was full to the cork. The loss of the record was perhaps compensated for by the insight into the native's mental processes.

The journey I had on leaving Kipia was one of the most difficult in my experience. The track had not been used for a long time, and little seemed to be known about it. According to my fount of information, Cave's soldier, Waka, it would take six hours to reach our next camping place. My Effendi assistant from Khartoum was equally certain it would only take four. It seemed, therefore, as if it could be accomplished quite easily between breakfast and lunch, so I parted from my baggage. But it took ten hours, and taught me several lessons I did not readily forget.

In the three weeks at Kipia I had become familiar with most of the birds there. I could identify almost everything I saw and heard. The camp I moved to from there was at 5000 feet. At a certain point in the journey down we had to negotiate an uncomfortably steep 300-foot rock-face at the 8000-foot level. At the foot I found myself in a country with quite different vegetation, and strange birds I thought I should never get to know. This example of zonation was very striking. Incidentally the area I came to then yielded a number of very interesting finds.

Early in February I set off for the Abyssinian border, about 200 miles away from the Imatongs. My headquarters there was the military post of Towat, in the Boma Hills. I was very fortunate in being able to go there as the area was not open to the casual traveller. The region is an escarpment of the main Abyssinian massif which has been cut off by the Sudan boundary. In getting there one crosses probably one of the richest and least-known game areas in Africa. I have heard first-hand accounts of game quantities almost difficult to believe, and though I crossed there at the worst season I was amazed at what I saw even then. In a recent letter Cave told me that he flew over a herd of Cob stretching for ten miles.

Hardened travellers though most of you must be, I am sure you carry a vivid remembrance of some particular experience. I think the one that will live longest with me was that first

view of the hazy blue line of the Boma Hills, rising out of a parched and blistering hot thornbush plain. It seemed as if it was the goal of a traditional pioneering urge, as well as promised satisfaction for the immediate bodily needs of water and cool shade.

But from a bird point of view the area was rather disappointing. The tops of the hills at 4–5000 feet, though they towered over the interminably flat 1800-foot plain, were no higher than the base of the Imatongs. In February the country was almost waterless, and seemed lifeless. I remember spending a whole morning in a patch of wood, and only saw or heard one bird. I had to work pretty hard for what I got, and was fortunate in making one or two interesting discoveries.

Perhaps one of my most interesting finds had no connection with ornithology. It was a new record for the Sudan in the form of two Italians who thought fit to penetrate into this region from south-west Abyssinia. They had come through a very inhospitable bit of country, and the opinion was that they had done well to survive on their wits for 38 days. I heard rumours that others were less fortunate. They had an Abyssinian boy and a woman with them.

At this time I was camping near a Kichepo village. The women of this people make " saucers " of their lips. They seemed to be very self-conscious about their appearance. This tribe was unadministered, and very independent. They had to be handled with care and they were liable to flare up, particularly so at this time, as there was a great deal of unrest caused by the infiltrations of people from south-west Abyssinia. We had an exchange hunt one day. They first took me to shoot a hartebeest, and then I had the pleasure of watching them stalk and spear one. It was carried out with amazing skill. A few nights later I thought I was being given the same treatment. We had an exciting hunt near my tent, but discovered it was only a hyena after bird remains. On another occasion I was dozing in the shade of a tree when Waka propped up my rifle within easy reach. I asked him why, and he replied that I might need it. Apparently there

had been a bit of trouble, but there was no worse damage than a gashed knee.

By the end of February I was back on the Uganda border, on the Didinga Hills, and within sight of the Imatong Mountains. I should explain that these two mountains, along with the smaller Dongotona Mountains in between them, lie close together, but are without any common foothills. They are exactly like islands.

The top of the Didinga Hills is an extensive plateau at about the 6000-foot level. The scenery is rather like English downland, and it enjoys a delightful climate. At about 2000 feet lower it is quite different to the top of the Imatongs. In fact the only cloud forest exists as a cap on the top of Mount Lotuke, which rises to a 9000-foot peak, and is connected to the extreme southern end by a narrow ridge. I camped on this ridge and just under the forest cap for about three weeks. The sides of the mountain are very steep, and the forests are literally impenetrable except with the aid of expert woodcraft. I had to have a path cut to the rather striking pinnacle at the top. I believe I was the first to ascend to the true summit. It was on the way back from one of these climbs that what is probably a typical Highland idiom of prompting a question in the negative nearly landed me in difficulties. I put a question to an English-speaking soldier in this way : " It'll not be possible to go down that way, will it ? " His reply, " Yes, sir," was perhaps logical, but it was at least disconcerting, and when I recovered myself he learned some more bad English in the form of good Scots.

I spent six weeks on the Didinga Hills and then Cave joined me for a short exploration of the Dongotona Mountains, where we again made a very interesting collection. Finally I got back to Torit about the middle of April, and during the rest of the month spent part of the time in going over the whole collection in Cave's " Bird-room," and in going out for short trips into the field. But the most unique experience of all was to be flown by Cave over the mountains. He took me up on several occasions, and we were able to make a fine series of photographs to supplement those taken on the ground. It gave one a wonderful feeling of complete conquest

to swoop and soar over many miles of country in which one had toiled and sweated for many weeks.

I have tried to describe in barest outline the nature of the country in which I collected, and one or two outstanding experiences. Perhaps the photographs handed round will help to fill in the story. Very little has been said about the results of the expedition. All I am going to say is that I brought back about 1000 birds, and when the collection is properly worked out I hope it will be possible to publish some observations.

In the meantime I think it can be said that the expedition was very successful. I am sure you will agree that it could hardly have been so unless it ran smoothly from beginning to end. Col. Cave saw to that with meticulous care.

A new Race of Scrub Warbler from the Southern Sudan and of a Babbler from Western Abyssinia.

Mr. J. D. Macdonald described the following :—

Bradypterus cinnamomeus cavei, subsp. nov.

Description.—Distinguished from *B. c. cinnamomeus* by the much darker—chocolate-brown as distinct from rufous-brown—colour of the upper parts.

Distribution.—Imatong Mountains, Anglo-Egyptian Sudan, over 8000 feet.

Type.—Adult male from Kipia, Imatong Mountains, Anglo-Egyptian Sudan, 3° 57′ N., 32° 57′ E. ; plumage in average condition : collected by J. D. Macdonald on January 8, 1939, in forest shrubbery at 8800 feet : Brit. Mus. Reg. no. 1939.10.1.4.

Measurements of Type.—Culmen from base 16, wing 63, tail 71, tarsus 24 mm.

Remarks (additional specimens).—This race is represented by the following :—

Collected by F. O. Cave :

Male and female, Kipia, 9000 feet, 31. v. 37.

Sex ?, Lomoling, 8000 feet, 10. ii. 38.

Juv., Lomoling, 29. iv. 38.

Collected by J. D. Macdonald :

One male and three females, Kipia, 8600–8800 feet, 27. xii. 38 and 4, 5, 11. i. 39.

Female, Mt. Kineti, 10,400 feet, 1. i. 39.

Habits.—For some time before I secured a specimen this bird was known to me by its plaintive and rather irritating note, which was difficult to distinguish from that of *Pseudoalcippe abyssinicus*. Both birds were found in the same localities, creeping about in dense shrubbery. *Bradypterus* in particular rarely went higher than a few feet above the ground or exposed itself outside its covert. If it had not been that one could eventually run an elusive note to earth, fewer specimens would have been secured.

Specimens were first obtained by Col. F. O. Cave and were identified by me as *Bradypterus cinnamomeus*, and recorded by Cave as an extension of distribution in ' Sudan Notes and Records,' vol. xxi. p. 181, 1938. At that time racial status had not been considered.

Many races of this species have been described, and are apparently still struggling for recognition. At the present time their claims have not been studied, but it is at least evident, when the series in the National Collection is arranged geographically, that the race described above stands out clearly.

It is interesting to record that this bird was not found on either the Dongotona or Didinga Mountains.

This race is named in honour of Col. F. O. Cave, who in recent years has added a great deal to the knowledge of bird life in the southern Sudan.

Turdoides leucopygia clarkei, subsp. nov.

Description.—This race is distinguished from *T. l. smithii* in having the chin dark-coloured instead of white, and from *T. l. omoensis* in having the lores and area under the eye whitish instead of black, and in the throat being sooty instead of black.

Distribution.—Baro River in Western Abyssinia, in the vicinity of Goré and Buré.

Type.—Adult male from Gummaro, near Goré, western Abyssinia : collected by Odon Kovács, 11. vii. 1917. Brit. Mus. Reg. no. 1938.5.18.1.

Measurements of Type.—Culmen from base 25, wing 104, tail 101, tarsus 34 mm.

Remarks.—The race is based on eight specimens, the type and five others collected by Kovàcs near Goré, and two specimens obtained by L. C. G. Clarke near the Didessa River valley, some distance to the east of Goré. Kovacs' specimens are : 2 males, Buré, 22. ix. 1916 ; female, Gummaro, 27. vii. 1917 ; female, Isuré, 27. ix. 1916. Stephenson Clarke's specimens are : female, Dabana, 25. ii. 1912 ; female, Bello, 2. iii. 1912.—the former showing signs of intergradation with *T. l. smithii.*

The race is named in honour of Col. Stephenson Clarke, who presented two of the above specimens to the British Museum.

I am indebted to Captain Esmé Erskine, late British Consul at Goré, for telling me that Gummaro is the name of an estate and stream a few miles west of the British Consulate at Goré, where Kovács is known to have collected.

The Jackdaws of the Palæarctic Region, with Descriptions of three new Races.

Dr. Andrew Kleiner sent the following, which was communicated on his behalf by Mr. N. B. Kinnear, who also showed photographs taken by Dr. Kleiner of skins he had examined :—

During 1938–39 I prepared my third study of the Palæarctic Corvidæ. This paper dealt with the Jackdaws, consisting of 62 pages, which is now in the press, of the ' Acta Ornithologica Musei Zoologici Polonici ' of the Warsaw Museum, but owing to recent events it is doubtful if it will ever appear.

I have therefore sent a *résumé* to the Editor of the ' Bulletin,' and am very grateful to the British Ornithologists' Club for publishing it.

In the course of my studies I have examined 829 skins

from 22 museums and private collections, including the British Museum, Royal Scottish Museum, and Colonel Meinertzhagen's collection. I am also indebted to Mr. G. Tomkinson for a kind donation of a series of species.

As a result of my researches I recognise the following races of the Jackdaw in the Palæarctic region :—

Colœus monedula monedula (Linnæus).

Syst. Nat. ed. x. p. 106, 1758. (Sweden.)

The neck is uniformly dark grey, with a small white collar, the back bluish-black, underparts slaty-grey.

Distribution.—Scandinavia, Denmark, and Finland.

Colœus monedula turrium (Brehm).

Vög. Deutsch. p. 172, 1831. (Middle Germany.)

Not such a uniformly coloured bird as *C. m. monedula.* The edges of the feathers are lighter in colour, giving a general wavy effect, especially on the underside. There are only traces of white on the collar.

Distribution.—Germany, Poland, Austria, Bohemia, and Hungary.

Colœus monedula spermologus (Vieillot).

Nouv. Dict. d'Hist. Nat. viii. p. 40, 1817. (South of France.)

Uniformly dark slaty-black, the neck very dark, without any traces of a collar. The upper and undersides are very dark ; indeed, it is one of the darkest races of the Jackdaw.

Distribution.—Alsace-Lorraine, Holland, Belgium, British Isles, France, Switzerland, Italy, Corsica, Sardinia, and Malta.

Colœus monedula ibericus, subsp. nov.

Description.—*C. monedulæ spermologo* similis, sed cum collo claro griseo cum tergo æquali nigro, minime splendente ; ventre griseore et cum plumis marginatis.

Distribution.—Spain and Portugal.

Type.—In British Museum, male. Granada, iv. 1871. Brit. Mus. Reg. no. 97.11.10.605.

Co-type.—In Museo Nationali Hungarico, male, no. 2446/6 d. Malaga.

Colœus monedula nigerrimus, subsp. nov.

Description.—*C. m. cirtensi* similis, sed major. Maximus omnium *Colœorum*, cum tergo forti nigro, sine splendore, cum collo argenteo nigroque interrupto, et ventre nigro, cum plumis marginatis.

Distribution.—High mountains of Mauretania and Morocco.

Type.—In American Museum of Natural History, New York, male, no. 624019. Aghbalu Larbi, C. Atlas, Morocco, 5. iv. 1925

Colœus monedula cirtensis Rothschild & Hartert.

Nov. Zool. xviii. pt. 3, p. 471, 1912. (Constantine, Algeria.)

The smallest and also the lightest grey race, uniformly coloured, without white collar.

Distribution.—Algiers.

Colœus monedula collaris (Drummond).

Ann. & Mag. Nat. Hist. xviii. p. 11, 1846. (Macedonia.)

Distinguished by the light silvery-coloured neck and the incomplete collar.

Distribution.—Balkans.

Colœus monedula pontocaspicus, subsp. nov.

Description.—*C. m. collari* similis, sed obscurior, et major minus undulatus ; ventre griseore *Coleo monedula sœmmeringi.*

Distribution.—Asia Minor and adjoining islands ; Cyprus, Syria, Palestine, N. Mesopotamia, N. Iran, and W. Transcaspia.

Type.—In Hungarian National Museum, male, no. 2867/4 c. Stawrowuni, Cyprus, 3. iii. 1902.

Co-type.—In Milan Civil Museum, female. Nazareth, Palestina, 1. v. 1934.

Colœus monedula sœmmeringi (Fischer).

Mém. Soc. Imp. Moscow, i. p. 3, pl. i. 1811. (Moscow.)

Also a uniformly dark bird, but with the white collar well developed.

Distribution.—Baltic States, N. Poland, Russia, Caucasus, and W. Siberia.

Colœus monedula ultracollaris (Kleinschmidt).

Falco, xiv. p. 16, 1919. (Naryn, Turkestan.)

Similar to *sœmmeringi*, but darker and larger, with a well-developed white collar.

Distribution.—Turkestan, Tian-Shan, W. Tibet, Ferghana, N. Afghanistan, Ladak, and Kashmir.

Colœus monedula dauricus (Pallas).

Reise Russ. Reichs, iii. p. 694, 1776. (Baikal.)

Similar to a small Hooded Crow, with the head, neck, breast, and back bluish-black, the upper neck and underparts bright creamy white. The juvenile plumage has the neck black with silvery spots, the so-called "*neglectus*" plumage.

Distribution.—Baikal, Mongolia, Transbaikal, Manchuria, Amur, Ussuri, Corea, Japan, N. China.

Colœus monedula khamensis Bianchi.

Bull. B. O. C. xvi. p. 68, 1906. (Kham, S.E. Tibet.)

Very similar to *C. m. dauricus*, but larger and duller in plumage.

Distribution.—W. Szetchuan, W. Yunnan, and E. Tibet.

All these subspecies intergrade with one another both in size and colour, and in many areas the different races are indistinguishable. They follow the Bergaman rule, and the larger forms are found the farthest north, while one can see the same thing in altitudinal distribution if *C. m. cirtensis* is compared with *C. m. nigerrimus*, *C. m. sœmmeringi* with *C. m. ultracollaris*, and *C. m. dauricus* with *C. m. khamensis*. The races found in high mountainous regions are also darker.

Until recently the great difficulty to the systematist in studying the Jackdaws was that not sufficient was known about migration and winter distribution. Now, thanks to the ringing schemes, we know that many races are migratory, especially the Russian race *C. m. sœmmeringi*, which has the largest breeding territory, and probably is also most numerous. Large numbers of this race migrate every winter to the whole of Europe and S.W. Asia.

A new Race of Glass-eye from Eastern Africa.

Mr. R. E. Moreau sent the following description :—

Camaroptera brachyura fuggles-couchmani, subsp. nov.

Description.—Generally darker and richer in colour than *C. b. pileata* or *C. b. bororensis.* The most notable difference is in the underside : this new form has the throat dull grey, not whitish, and the flanks and sides of the breast olive, contrasting sharply with the pure white centre of the abdomen.

Distribution.—Uluguru and Nguru Mountains in evergreen forest, probably up to about 4000 feet. (Mr. N. R. Fuggles-Couchman has obtained a specimen in the Nguru Forest that agrees with the type, and it appears from other specimens collected by him that there may be a rapid transition between the new subspecies and *C. b. pileata* about 100 miles east of Morogoro.)

Type.—Male completing moult, no. 4121 in Brit. Mus. collection, from Kibungo Forest, 900 feet, at eastern foot of Uluguru Mountains, 16. vi. 37 (R. E. Moreau).

Measurements.—Wing 53, tail 41, culmen 13 mm.

Remarks.—I am indebted to Mr. R. H. W. Pakenham for comparing the type with Zanzibar material, and to Herr Grote for comparing it with the specimens of *C. brachyura* in the Berlin Museum, where there is nothing like it.

New Races of a Tailor-bird and Rose-Finch from Ceylon and the Himalayas.

Mr. Hugh Whistler sent the following descriptions :—

Orthotomus sutorius fernandonis, subsp. nov.

Description.—Resembles the typical race, but the upper parts are more " saturated " in tone. On the lower parts there is much more dark marking on the throat ; the grey feather-bases, which emphasize the concealed pigmented spot on the skin on each side of the throat in the typical race, are more extensive and general ; the flanks are dark slaty-grey.

Distribution.—Central Hill Zone, Ceylon.

Type.—Male adult, Ohiya, 5820 feet, Ceylon; collected by Mr. E. C. Fernando on November 27, 1936. No. 246 in the Ceylon Survey collection.

Measurements of Type.—Culmen 15·5, wing 49·5, tail 63·5, tarsus 19 mm.

Remarks.—*Motacilla sutoria* Pennant, 'Indian Zoology,' 1769, pl. 7, was based on Governor Loten's material from Ceylon, and has always been considered, with justice, to refer to the Tailor-bird, which is general and widely spread throughout the plains of Ceylon, both in the wet and dry zones. The new form is based on a series of four adults collected in the Central Hill Zone of Ceylon, the particular home of the distinctive endemic Ceylon species.

It is named after Mr. E. .C Fernando of the Colombo Museum in acknowledgment of his excellent work in carrying out the field collecting of the Ceylon Survey on behalf of the British Museum and the Colombo Museum.

Procarduelis nipalensis kangræ, subsp. nov.

Description.—Resembles the typical form, but the colour of the upper parts and of the breast is browner, less rich in tint.

Distribution.—The western Himalayas as far west as Kishtwar.

Type.—Adult male, Dharmsala, Kangra District, N.W. Himalayas. Collected in April 1870, by E. W. Brooks. Brit. Mus. Reg. no. 1887.6.1.141.

Remarks.—Based on six males from the Duala Dhar range in the Kangra District, two in the Hume collection, and four in my own collection.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following three notes :—

(1) On the Status of *Sula nicolli* Grant & Praed, Bull. B. O. C. liii. 1933, p. 118 : Glorioso Island.

Recently we have come across the description and plate of a new Booby by Ribeiro in Arch. Mus. Nac. R. de Janeiro, xxii. p. 186, pl. xxii. 1919, which he has named *Sula autumnalis*, from Trinidad. This description and plate represents the bird we described, and therefore *Sula nicolli* Grant & Praed becomes a synonym of *Sula autumnalis* Ribeiro.

(2) On the Status of *Campethera abingoni suahelica* (Reichenow), Vög. Afr. ii. 1902, p. 175 : Usaramo, Dar-es-Salaam District, eastern Tanganyika Territory ; and *Campethera abingoni mombassica* (Fischer & Reichenow), J. f. O. 1884, p. 262 : Mombasa, eastern Kenya Colony.

In the Bull. B. O. C. lix. 1939, p. 52, we gave the distribution of *C. a. mombassica* as southern Italian Somaliland, south-eastern Kenya Colony, and north-eastern and eastern Tanganyika Territory as far south as the Morogoro and Dar-es-Salaam Districts.

Professor Neumann, in a letter to us dated March 29, 1939, expressed the opinion that *C. a. mombassica* does not extend to Morogoro and Dar-es-Salaam.

Through the great kindness of Dr. Stresemann, of the Berlin Museum, we have had the loan of the type of *Campethera a. mombassica*, and compared it with the series in the British Museum, having at a previous date already examined the type of *C. a. suahelica*.

We find that the type of *C. a. suahelica* has a barred mantle, and although Reichenow gives as characters bright red on head and moustache as compared with *C. a. abingoni*, we find that there is no difference between specimens from the Dar-es-Salaam district and much further south, and therefore consider *C. a. suahelica* must become a synonym of *C. a. abingoni*.

The type of *C. a. mombassica*, on the other hand, has small spots and fine streaks on the mantle, and is a good race; moreover it differs in having the head in the male red and greenish, not red and grey as in *C. a. abingoni*, the female having the forehead olivaceous, not black, and the spots on the forehead tinged with green, not white as in *C. a. abingoni*.

Some adult specimens of *C. a. abingoni*, especially females, have the barring on the mantle broken up into spotting, but this spotting is coarser and larger than in *C. a. mombassica*.

The distribution of the three forms occurring in Eastern Africa is as follows :—

Campethera abingoni abingoni A. Smith, Rep. Exp. S. A. 1836, p. 53 : Durban, Natal, South Africa, of which *Dendromus chrysurus suahelicus* Reichenow, Vög. Afr. ii. 1902, p. 175 :

Usaramo, Dar-es-Salaam District, eastern Tanganyika Territory, is a synonym.

Distribution.—Natal to eastern Transvaal, eastern Southern Rhodesia, Nyasaland, Portuguese East Africa, and eastern Tanganyika Territory, through Kilosa and the Dar-es-Salaam districts to Lyamungo, southern Kilimanjaro.

Campethera abingoni mombassica (Fischer & Reichenow), J. f. O. 1884, p. 262 : Mombasa, eastern Kenya Colony.

Distribution.—Southern Italian Somaliland, eastern Kenya Colony and north-eastern Tanganyika Territory from the Juba River to Amani.

Campethera abingoni kavirondensis van Someren, Bull. B. O. C. xlvii. 1926, p. 70 : Lolgorien, south Kavirondo, south-western Kenya Colony.

Distribution.—South-western Kenya Colony to Njombe, south central Tanganyika Territory.

Thus the known southern limit of *C. a. mombassica* at Amani, and the known northern limit of *C. a. abingoni* at Lyamungo, 19 miles west of Moshi, south Kilimanjaro, are only about 120 miles apart ; and the known southern limit of *C. a. kavirondensis* at Njombe, and the known western limit of *C. a. abingoni* at Kilosa, are about 215 miles apart. At present there are defined limits of distribution without overlapping, but we would expect to find intermediates within these gaps if this Woodpecker occurs there.

(3) On the Status of *Turdoides melanops clamosa* (van Someren), Bull. B. O. C. xl. 1920, p. 95 : Naivasha, Kenya Colony.

Sclater, Syst. Av. Æthiop. ii. 1930, p. 353, throws doubt on the validity of this race.

We have carefully examined the good series in the British Museum collection, and are unable to see any characters by which Kenya Colony specimens differ from those from Tanganyika Territory and Uganda. We are therefore of opinion that *Crateropus melanops clamosus* van Someren must become a synonym of *Turdoides melanops sharpei* (Reichenow), J. f. O. 1891, p. 432 : Kakoma, Tabora District, Tanganyika Territory.

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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

11 DEC 1939
PURCHASED

No. CCCCXXVI.

The four-hundred-and-twenty-first Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, November 8, 1939.

Chairman : Dr. A. Landsborough Thomson.

Members present :—F. J. F. Barrington ; G. Brown ; Hon. G. L. Charteris ; D. B. Cunninghame ; Miss J. M. Ferrier ; J. Fisher ; Capt. C. H. B. Grant (*Editor*) ; B. Guy Harrison ; Dr. E. Hopkinson ; N. B. Kinnear (*Acting Hon. Sec.*) ; Miss E. P. Leach ; Miss C. Longfield ; Dr. G. Carmichael Low ; Dr. P. R. Lowe ; C. W. Mackworth-Praed ; Dr. O. Manson-Bahr ; Col. R. Meinertzhagen ; T. H. Newman ; Mrs. J. B. Priestley ; Miss G. M. Rhodes ; W. L. Sclater ; D. Seth-Smith ; B. W. Tucker ; H. F. Witherby ; C. G. M. de Worms.

Guests :—Miss D. Brown ; Miss T. Clay ; Mrs. H. F. Witherby.

Members, 25 ; Guests, 3.

Bird Observations in Sweden and Gotland.

Mr. B. W. Tucker gave a short account of a visit to Sweden, and more particularly to the island of Gotland. He explained that he was not describing a definite ornithological trip, but merely more or less random observations on birds made

on a holiday in August—in point of fact, too late a date for seeing several of the more interesting breeding species. He described a week-end bird-watching trip in the Stockholm archipelago. The great number of islands forming the inner zone nearer the mainland are heavily wooded with Scots pines, but towards the open sea the islands become more and more scattered and barren, till finally the outermost are little more than rocky skerries tenanted by Gulls (Herring, Lesser and Greater Black-backed), Terns, Eider-Ducks, Razorbills, and other sea-birds. Families of Velvet Scoter (*Melanitta fusca*) were numerous amongst the wooded islands, and a Caspian Tern (*Hydroprogne caspia*) was seen fishing. There is apparently only one real colony of the latter species in the Baltic, on a rather remote and inaccessible island, but odd pairs or groups of two or three pairs breed on a number of islets. Such a breeding place of a pair or two was visited on the occasion in question, but the birds had finished nesting and left. The Sea-Eagle (*Haliæetus albicilla*) is comparatively common in the Stockholm archipelago, breeding in the tall pine-trees of the wooded islands, and fishing largely in the more open sea about the outer islands, where a fine pair of adult birds was seen.

Gotland, the largest of the Baltic islands (about 70 miles long), is not spectacular from a scenic point of view, but has, nevertheless, a peculiar charm, and the little town of Visby is famous for its well-preserved mediæval walls and many ruined churches, dating from the period when it was an important member of the Hanseatic League. The island is flat and mainly clothed in pine-woods, varied by fields and cultivation, with sandy or boulder-strewn shores fringed by very shallow sea. A shore-line of the latter type extending for a couple of miles or more north of Visby is a great resort of birds, and on an August day the majority of the innumerable rocks and boulders scattered in the shallows are occupied by resting Gulls, Eider-Ducks, and Mergansers, with here and there Goosanders and Terns. An excursion was made on August 10 to the islands of Stora and Lilla Karlsö, whose cliffs of Silurian limestone are the only breeding places of Guillemots (*Uria aalge intermedia* Salomonsen) in Sweden. Stora Karlsö is a nature reserve and bird sanctuary. The Guillemots had

left the cliffs, but some were still present on the adjacent sea, and the very large colony of Lesser Black-backed Gulls (*Larus f. fuscus*) on Stora Karlsö was still occupied. Some full-winged Grey Lag-Geese (*Anser anser*) on this island, the progeny of wild birds, are absurdly tame and come to be fed by visitors. A single male Collared Flycatcher (*Muscicapa albicollis*) was seen on passage on Lilla Karlsö, but this species, one of the most interesting breeding birds of Gotland, had evidently already left the mainland, and the Visby Botanical Gardens, where a number of pairs breed in nesting-boxes, were already deserted. Barred Warblers (*Sylvia nisoria*), which breed sparingly, had also evidently left. The pine-woods, like many pine-woods elsewhere, are not rich in birds, but harbour some interesting species, notably the Black Woodpecker (*Dryocopus martius*), which was seen in several places. Crossbills (*Loxia curvirostra*) were seen once or twice. Little Ringed as well as Common Ringed Plovers (*Charadrius dubius curonicus* and *C. hiaticula*) were met with on the shore close to Visby, and various northern Waders, such as Wood-Sandpiper (*Tringa glareola*), Greenshank (*T. nebularia*), and Spotted Redshank (*T. erythropus*), were locally numerous on passage, with a few Green Sandpipers (*T. ochropus*) and occasionally a Temminck's Stint (*Calidris temminckii*). An expedition was made to Tingstäde Träsk, a reedy lake where a colony of Little Gulls (*Larus minutus*) has bred for many years, but these birds had, unfortunately, left. On the other hand, on one of the low islands off the coast a pair of Caspian Terns with a well-grown young one were still on the breeding ground, and useful observations were made on the behaviour, notes, etc., of this striking bird. Grey Lag-Geese also breed on some of the islands close to the coast and locally also on the "mainland."

Coloured Films of Gotland and the Abbotsbury Swannery.

Miss Cynthia Longfield showed a short film in colour, taken in June 1939, of scenes in Gotland, which included the ancient town of Visby; also a coloured film of the Abbotsbury swannery, taken this August.

Divergent Types of Eggs of the European Cuckoo.

The Hon. G. L. Charteris exhibited a series of eggs of the European Cuckoo and made the following remarks :—

At the suggestion of Mr. Kinnear I am showing a few Cuckoos' eggs of divergent types, some of which in colour and markings resemble the fosterers with which they were found.

Two also are remarkable for their smallness, one being about the same size as the Pied Wagtails' eggs with it, and the other only a little larger than the Marsh-Warbler's egg with which it was found. As a contrast to this egg, I show an exceptionally large egg laid by a Cuckoo which for five seasons victimized Pied Wagtails about my home in Gloucestershire. All the Pied Wagtails-Cuckoos' eggs I have here are from that district, and apart from size it would be difficult to imagine better adapted types than the eggs found in 1938 and 1939 and those laid by the Cuckoo in the two preceding years (one of each shown—nos. 224 and 235).

This summer the Wagtail Cuckoo had one of her eggs accepted by a Garden-Warbler, and another was found deserted in a Spotted Flycatcher's nest with two eggs.

Nos. 15 and 57 are of interest, first because in my experience it is rare to find such an ill-adapted type of Wagtail-Cuckoo's egg, and secondly, because this Cuckoo's laying covers eight years, and six years is the next longest-lived Cuckoo of which I have proof.

It is not safe to assume that because, after vigorous search, one fails to find an egg of a certain Cuckoo, whereas one or more were found the summer before, that that Cuckoo is dead—she may have moved ; but such changes of territory I believe usually take place after one season. I know for certain of one such case, and suspect others to account for the many cases where I have found the eggs of a Cuckoo during one season only.

In 1938, for example, I found eggs of seven different Cuckoos in Hedge-Sparrows' nests, six for the first time ; and this year within the same area I was only able to find three of these, one of which was an old-stager (fifth season).

I show a set of five Hedge-Sparrows' and two Cuckoos' eggs, one, I should think, a rare type—in colour, as you see, rather like a Jay's egg. To those who like to indulge in the gentle art of *faking*, I show a set of Barred Warblers' eggs, with which this Cuckoo's egg agrees well. Both these Cuckoo's eggs were deposited before the Hedge-Sparrow laid an egg. This happens not uncommonly and, in my opinion, accounts for the Cuckoo's eggs found alone and deserted in the nests of Hedge-Sparrows. But that this does not always shock the Hedge-Sparrow to the point of desertion is evidenced by the finding of an egg of a Cuckoo, whose normal habit is to remove an egg when laying her own, with five or even six of the fosterer's eggs.

I have brought four sets of Great Reed-Warblers' eggs, with one or more Cuckoo's eggs, all from Hungary. One of these is made up of five eggs of the host and three eggs obviously laid by different Cuckoos.

Although many of the Cuckoos' eggs that I have seen in the nests of Great Reed-Warblers are characteristic, being boldly marked on a clear background, a nondescript type also occurs, such as the one found broken in the eight-clutch, and another that you can see here in company with one so well adapted that it might be overlooked.

The two sets of Reed-Warbler and Cuckoo call for no comment. Then there are two sets of Sedge-Warbler and Cuckoo, found this year and last year in the same district, and obviously the produce of the same Cuckoo—apart from size, a very fair likeness. A Sedge-Warbler Cuckoo has one advantage—Sedge-Warblers' eggs do not vary much. By contrast a Tree-Pipit Cuckoo has an impossible task.

Finally, four sets of Marsh-Warbler and Cuckoo—two from Hungary and two from England. I think it a fortuitous coincidence that one of the English-taken eggs bears some resemblance to a type of Marsh-Warbler's egg. Where this was found I have seen some fifty nests of this species in ten years, and never before a Cuckoo's egg in one of them. I should say it was laid by a Wagtail or a Robin Cuckoo on a bye-day. On the other hand, the two eggs from Hungary are good—one very good.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following four notes :—

(1) On the Occurrence of *Anthus campestris griseus* Nicoll (Bull. B. O. C. xli. 1920, p. 25 : Tischan, Turkestan) in Eastern Africa.

The series examined by us does not bear out the characters given for this race, and the wing-length of specimens measured by us gives :—Western birds (nineteen) 83–95 mm. : eastern (sixteen) 82–95 mm.

There is quite a lot of individual variation at all seasons of the year, and we have failed to find any character by which races can be separated. We are therefore unable to recognize the race of *A. c. griseus* as occurring in Eastern Africa.

(2) On the Races of *Anthus similis* Jerdon occurring in Eastern Africa.

This group has the second to fifth primaries inclusive emarginated on the outer web as shown by Chapin, Rev. Zool. Bot. Afr. xxix. 3, 1937, p. 340, but the emargination on the fifth primary is deeper and more distinct than in the *Anthus leucophrys* group. Sclater, Syst. Av. Æthiop. 1930, p. 344, recognizes seven races as occurring in Eastern Africa. Both *Anthus sordidus* Rüppell and *Anthus longirostris* Neumann have been found to be preoccupied ; the latter was renamed *Anthus neumannianus* by Collins and Hartert in 1927. After it was found that *Anthus sordidus* was preoccupied authors used *Anthus nicholsoni* Sharpe, but it is now recognized that *Anthus similis* is the oldest name for this group.

Our examination of the good series in the British Museum collection shows that six races may be recognized in Eastern Africa, as follows :—

Anthus similis nivescens Reichw.

Anthus nivescens Reichenow, O. M. 1905, p. 179 : Kismayu, southern Italian Somaliland.

Distribution.—Eastern Sudan to both British and Italian Somaliland.

Anthus similis hararensis Neum.

Anthus nicholsoni hararensis Neumann, J. f. O. 1906, p. 233 : Abu Behr, near Harar, eastern Abyssinia ; of which *Anthus similis neumannianus* Collins & Hartert, Nov. Zool. xxxiv. 1927, p. 50 : Gardula, near Lake Abaya, southern Abyssinia, is a synonym.

Distribution.—Eritrea and Abyssinia to Kenya Colony (except south-eastern), Uganda, and north-eastern Belgian Congo.

We are quite unable to see any definite character by which eastern and southern Abyssinian birds can be separated.

Anthus similis nyassæ Neum.

Anthus nicholsoni nyassæ Neumann, J. f. O. 1906, p. 233 : between Sangesi and Songea, south-western Tanganyika Territory.

Distribution.—Tanganyika Territory to south-western Belgian Congo, north-eastern Northern Rhodesia, and Nyasaland.

Anthus similis sokotræ Hart.

Anthus sordidus sokotræ Hartert, Nov. Zool. xxiv. 1917, p. 457 : Alilo Pass, Socotra.

Distribution.—Socotra Island.

Anthus similis jebelmarræ Lynes.

Anthus sordidus jebelmarræ Lynes, Bull. B. O. C. xli. 1920, p. 16 : Jebel Marra, western Sudan.

Distribution.—Western Sudan.

Anthus similis chyuluensis v. Som.

Anthus nicholsoni chyuluensis van Someren, Journ. E. A. & Ug. N. H. Soc. xiv. 1939, p. 56 : Chyulu Hills, south-eastern Kenya Colony.

Distribution.—South-eastern Kenya Colony.

(3) On the Races of *Anthus leucophrys* Vieill. occurring in Eastern Africa.

Sclater, Syst. Av. Æthiop. ii. 1930, p. 344, recognizes five races in Eastern Africa. This group has the second to the fifth primaries inclusive emarginated on the outer web as shown by Chapin, Rev. Zool. Bot. Afr. xxix. 3, 1937, p. 340, but the emargination on the fifth primary is shallower and less distinct than in the *Anthus similis* group.

Our examination of the good series in the British Museum collection shows that three races may be recognized in Eastern Africa, as follows :—

Anthus leucophrys omoensis Neum.

Anthus leucophrys omoensis Neumann, J. f. O. 1906, p. 234 : Ergino Valley, between Gofa and Doko, south-western Abyssinia ; of which *Anthus leucophrys saphiroi* Neumann, J. f. O. 1906, p. 235 : Balassire, near Harar, eastern Abyssinia, and *Anthus gouldi turneri* Meinertzhagen, Bull. B. O. C. xli. 1920, p. 24 : Kituni, north-west Kenya Colony, are synonyms.

Distribution.—The Sudan, Abyssinia, and British Somaliland to Kenya Colony west of the Rift Valley, Uganda, Tanganyika Territory, and Nyasaland.

We can see no character by which birds can be separated within the distribution given above.

Anthus leucophrys zenkeri Neum.

Anthus leucophrys zenkeri Neumann, J. f. O. 1906, p. 235 : Jaunde, Cameroon.

Distribution.—Senegal to the western Sudan.

Anthus leucophrys goodsoni Meinertzhagen.

Anthus leucophrys goodsoni Meinertzhagen, Bull. B. O. C. xli. 1920, p. 23 : Nakuru, Kenya Colony.

Distribution.—Kenya Colony, east of the Rift Valley.

(4) On the Status of *Turdoides hypoleuca kilosa* Vincent, Bull. B. O. C. lv. 1935, p. 176 : Kibedya, Kilosa District, Tanganyika Territory.

Vincent compared his new race with *Turdoides hypoleuca* (Cabanis), J. f. O. 1878, pp. 205, 226 : Kitui, Ukamba, Kenya Colony, and appears to have overlooked *Turdoides hypoleuca rufuensis* (Neumann), O. M. 1906, p. 148 : Usegua, Pangani District, Tanganyika Territory. As we are unable to see the type in the Berlin Museum, nor can we send specimens for comparison, we have carefully compared the description and examined the four specimens in the British Museum collection, and there is no doubt that Vincent redescribed Neumann's *T. h. rufuensis*. Therefore *Turdoides hypoleuca kilosa* Vincent becomes a synonym of *Turdoides hypoleuca rufuensis* Neumann.

11 DEC 1939
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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXVII.

THE four-hundred-and-twenty-second Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, December 13, 1939.

Chairman : Dr. A. LANDSBOROUGH THOMSON.

Members present :—Miss C. M. ACLAND ; Dr. D. A. BANNERMAN (*Vice-Chairman*) ; F. J. F. BARRINGTON ; Miss J. M. FERRIER ; JAMES FISHER ; Capt. H. A. GILBERT ; B. GUY HARRISON ; Dr. E. HOPKINSON ; Rev. F. C. R. JOURDAIN ; N. B. KINNEAR (*Acting Hon. Secretary*) ; Miss C. LONGFIELD ; Dr. G. CARMICHAEL LOW ; Dr. P. R. LOWE ; C. W. MACKWORTH-PRAED ; Lt.-Col. H. A. F. MAGRATH ; J. G. MAVROGORDATO ; J. H. NEWMAN ; Mrs. J. B. PRIESTLEY ; D. SETH-SMITH ; Dr. C. B. TICEHURST ; B. W. TUCKER ; H. F. WITHERBY ; C. DE WORMS.

Guests :—Miss E. V. HALL ; H. W. MACKWORTH-PRAED ; Mrs. G. SWIFT ; Mrs. A. LANDSBOROUGH THOMSON ; Mrs. B. W. TUCKER ; L. S. V. VENABLES ; H. G. VEVERS ; Mrs. H. F. WITHERBY.

Members, 24 ; Guests, 8 ; Total, 32.

CHAIRMAN'S ADDRESS.

Review of the Past Year.

(November 1, 1938, to October 31, 1939.)

Dr. A. Landsborough Thomson said: During the past twelve months, Ornithology has lost by death some distinguished students, including:—in France, Henri Auguste Ménégaux; in the United States, Samuel Prentiss Baldwin, Joseph Grinnell, John Charles Phillips, and Witmer Stone. Among British ornithologists mention may be made of Sydney Herbert Long and Herbert Massey.

Much valuable work was done during the earlier part of the period, before ornithological activity in this and many other countries became restricted by world events. Owing to war conditions, however, it has been difficult to collect information from the Continent, and I am therefore afraid that on this occasion my review is concerned almost exclusively with the doings of British and American ornithologists. For my material I am largely indebted to Mr. N. B. Kinnear and his colleagues in the British Museum (Natural History), to the Rev. F. C. R. Jourdain, and—as regards the New World—to Dr. Alexander Wetmore and Dr. H. Friedmann. To all of them I wish to make most grateful acknowledgement.

Activities of British Ornithologists.

Europe. Several large-scale field inquiries have been in progress in this country under the auspices of the British Trust for Ornithology. Special mention may be made of Mr. E. M. Nicholson's report on the habitat of the Lapwing.

Mr. J. Fisher and Mr. H. G. Vevers have completed their investigation into the status of the Gannet. All the British breeding stations of the Gannet were visited during the season by collaborators in the inquiry: Mr. L. S. V. Venables and Mr. Vevers also visited those in Iceland and the Faroes in addition to doing other work there.

Mr. E. Cohen was in Corsica in May, and made some interesting observations.

Visits to some of the more familiar European countries were also paid by several British ornithologists. Mr. B. W.

Tucker, for instance, has already given here an account of a visit to Sweden.

Asia. Mr. F. Ludlow and Mr. G. Sheriff have made a second expedition to the Tsangpo Valley in southern Tibet, accompanied on this occasion by Mr. G. Taylor of the Botanical Department of the British Museum. They have brought back a splendid collection both of birds and of botanical specimens.

Mr. J. L. Chaworth Musters went to Afghanistan in the spring of this year, mainly to collect mammals, but hoping to get some birds as well.

For the past few years the Ceylon Museum has been making a bird survey in collaboration with the British Museum. Mr. Hugh Whistler is now working out the results, which it is hoped will clear up many points on South Indian and Cingalese ornithology.

Africa. Lt.-Col. and Mrs. R. F. Meiklejohn visited the Algerian Sahara during the early months of 1939, but encountered abnormally bad weather—detrimental to bird work.

Mr. J. D. Macdonald has made an expedition to the south-eastern Sudan to collect birds for the British Museum ; an account of this has already been given here.

Mr. and Mrs. R. M. Lockley went to Madeira, and visited the Desertas to study the breeding of the Petrels.

Australia. Mr. G. M. Mathews has presented his valuable collection of ornithological books to the Commonwealth Library at Canberra.

North America. Mr. Oliver Davies was in Newfoundland from June to September, collecting birds and seeking information about the Gannet colony at Cape St. Mary.

Mr. B. G. Harrison visited the Magdalen Islands, in the Gulf of St. Lawrence, for a month in the spring.

South America. Mr. D. Lack and Mr. L. S. V. Venables completed their stay in the Galapagos Islands.

Mr. Alastair Morrison went to Peru in June, and is again collecting live birds and skins.

Antarctic. Mr. B. B. Roberts is preparing reports on his observations during the s.s. 'Penola' expedition to the Antarctic. He has written an interesting account of the life history of Wilson's Petrel, which is being published by the British Museum.

Activities of American Ornithologists.

By the kindness of the colleagues in Washington already named, I am able to add this section on ornithological work in the New World.

Constant additions to the wild-life refuges under the direction of Dr. Ira N. Gabrielson, Chief of the United States Biological Survey, have brought these areas during the present year to a total of approximately 14,000,000 acres, of which 9,000,000 acres are concerned especially with water-fowl and other birds. The result of this refuge work and of recent wise restrictions on hunting have brought a definite increase in the abundance of wild ducks and geese.

The Whitney Wing of the American Museum of Natural History, devoted to the ornithological collections (including the Rothschild collection) and exhibitions of that institution, was formally dedicated on June 6. At the death of Dr. Stuart T. Danforth of Porto Rico, his important collection of Antillean birds was presented to the United States National Museum, the material including specimens not only from the better-known areas but also series from many small islands unknown to other naturalists.

Interest in the ornithology of Mexico is steadily increasing, so that in 1939 there have been special investigations by Dr. George M. Sutton of Cornell University and Mr. T. D. Burleigh of the Biological Survey in north-eastern Mexico, by Dr. Pierce Brodkorb of the University of Michigan in Chiapas, by Mr. Robert Moore of the California Institute of Technology in north-western Mexico, and by Dr. Alexander Wetmore of the Smithsonian Institution in the State of Vera Cruz.

Mr. W. E. Clyde Todd of the Carnegie Museum continued work in Ungava during the summer. Mr. E. R. Blake of the

Field Museum of Natural History secured important collections in little-known areas in British Guiana.

American ornithologists have also been active in other continents. For instance, Mr. A. L. Rand of the American Museum of Natural History has made extensive studies in the interior of New Guinea in regions not previously known ; and Dr. Joseph F. Rock has been making collections of birds on behalf of the United States National Museum in Indo-China.

Publications.

The third volume has appeared of the new ' Handbook of British Birds,' by Messrs. H. F. Witherby, F. C. R. Jourdain, N. F. Ticehurst, and B. W. Tucker. It is to be hoped that the war will not interfere with publication of the remainder of this most admirable work. The preparation of the fourth volume is understood to be well advanced.

We welcome the appearance of the new *Bulletin of Animal Behaviour*, which contains much of interest to ornithologists.

Mr. F. N. Chasen has completed the fourth volume of his ' Birds of the Malay Peninsula.' Dr. J. P. Chapin of the American Museum of Natural History has published the second part of his ' Birds of the Belgian Congo.' Dr. E. Stresemann has published the first instalment of an important paper on the birds of the Celebes in the *Journal für Ornithologie*.

Mr. A. C. Bent has issued a volume on the Woodpeckers in his series on the life-histories of North American birds. Dr. C. E. Hellmayr has published Part XI. of his ' Catalogue of Birds of the Americas.'

Some Remarks on Periodicity in the Life of Birds.

Dr. A. Landsborough Thomson, continuing, said : Rhythm is, of course, a characteristic feature of all life. We breathe so many times a minute, feed at intervals of a few hours, sleep once a day, and vary our habits to suit the changing seasons. In the case of birds there is, among other things, the familiar annual cycle : this is marked chiefly by the recurrence of reproductive activity, but is punctuated also by such events as moult and migration.

Two kinds of periodicity may be distinguished, although not very sharply. One is inherent, as in the case of the beating heart, and is little affected by external conditions. The other is directly related to some external rhythm, such as the alternation of day and night or of summer and winter. This second type, however, may become to some extent inherent, tending to persist even if the environment fails to change in its regular manner. Thus, some marine animals, inhabiting the belt of shore between the levels of high and low water, show a tidal rhythm in their behaviour, and retain this for a time in the quiet tanks of an aquarium.

Rhythm may be defined as the regular alternation of two or more phases. Commonly, there is an active phase followed by a resting phase. The latter may often be divisible into a period of recovery in the first instance, and a period of readiness during which some necessary stimulus to fresh activity is awaited. This period of readiness may not last indefinitely : if the proper stimulus to activity does not come, there may instead be a process of disintegration in which the state of readiness is lost for the time being. This is a point of some importance, but may be left here for the moment.

One rhythm may be closely related to others. They may be simultaneous, or they may be linked together in an ordered sequence. Thus in birds, all the elements of reproductive activity—from the first sign of courtship to the last effort of parental care—are interwoven as parts of a single pattern. One activity provides the stimulus for another ; or the cessation of one allows the next to become manifest. In such a series the later activities normally emerge only as a consequence of the earlier ones.

So much for generalisations. The particular object of these remarks is to mention various points, from more or less recent work, which show the significance of rhythm in the life of birds. For discussion of the nature of the underlying physiological processes—especially in regard to sexual periodicity—reference may be made to such reviews as those of Marshall (*Philos. Trans.*, B, 1936, 423), Bissonnette (*Quart. Rev. Biol.*, 1936, 371 ; *Wilson Bull.*, 1937, 241), and Rowan (*Biol. Rev.*, 1938, 374).

Association of different rhythms. It is obvious that different periodic events are associated in the sense that they fit into their proper places, in relation to each other, in the annual cycle of the bird's life. In recent years we have had evidence of an actual physiological connection in some cases. Thus, the work of Rowan (*Proc. Boston Nat. Hist. Soc.*, 1926, 147, and 1939, 151 ; etc.) has shown that such different activities as reproduction and migration may be interrelated in this way, instead of being separately dependent on the changing seasons.

Briefly, the migrational urge is—at least in certain instances—associated with a particular state of the gonads, intermediate between full activity and complete quiescence. Some association between migrational urge and reproductive urge in spring had for long been considered probable : incidentally, incomplete spring migration on the part of non-breeding individuals can be explained on this basis. The new experimental evidence, as it happens, refers mainly to autumn.

This interdependence, however, cannot be regarded as complete. Witness the migration of young birds in their first autumn. Castrated individuals in Rowan's later experiments also took their departure ; and other evidence on this point has recently been given by Putzig (*Vogelzug*, 1939, 189). The link between the two activities therefore does not appear to be essential in all circumstances.

Persistence of adaptive rhythm. There are many examples of captive birds brought from the southern to the northern hemisphere showing a tendency to breed at what would have been the appropriate season on their own side of the equator. This is an example of an adaptive periodicity becoming to some extent inherent, and thus persisting in spite of alteration in the environmental conditions. Cases of this kind have recently been reviewed by Baker and Ranson (*Proc. Zool. Soc.*, A, 1938, 101), who show that there are wide differences in the extent to which the inherent rhythm is preserved, disturbed or suppressed.

Among imported southern hemisphere birds, the species which show an internal breeding rhythm not easily influenced by the environment are in a minority : certain Parrots and

the Gouldian Finch are examples. It would be interesting to know how such birds would react under the experimental conditions which Rowan and others have found to be capable of controlling the reproductive state almost at will.

Annual nature of the cycle. The tendency of the annual rhythm to become inherent is perhaps also exemplified by migratory birds which spend part of the year beyond the influence of the seasonal changes proper to their native area. A sedentary bird in the temperate zone is affected by all the seasons in turn : its annual cycle may depend entirely on their immediate influence, and only experiment can show whether the rhythm has any independent quality. On the other hand, a bird which migrates from the temperate zone to the tropics can be directly influenced only by the summer and autumn of its native area : winter and spring are missing from the external cycle, or are at least replaced by something different, yet the bird itself remains true to the annual rhythm. Again, a trans-equatorial migrant experiences a second summer in the temperate zone of the other hemisphere but does not breed ; and in the local autumn it feels the call of spring.

Moreau (*Ibis*, 1931, 553), discussing the subject, suggested that the periodicity in each of these groups must be essentially different. It is possibly easier to believe, however, that all these cases exhibit an annual rhythm which is essentially the same, but which becomes linked with different factors in the environment according to circumstances. This annual rhythm reflects the influence of all the external conditions governing the bird's life, and its phases may be induced by stimuli of various kinds or may even occur merely by virtue of a periodicity which has become inherent. Thus one may suppose, with Moreau, that the departure of a migrant " wintering " in the tropics is a response to an internal rhythm showing itself in the absence of any external stimulus—it may, in other words, be induced in a relatively stable environment by the mere effluxion of time.

As regards the reproduction of birds wholly resident in the tropics, it seems that the cycle is normally an annual one for the individual. Yet there are instances in which different

individuals of a species, even in the same area, have breeding seasons at widely separated times of year.

Possible longer cycles. Although the cycle of the bird behaviour is in the main an annual one, there may be some partial exceptions. The large non-breeding population of various Petrels indicates that the birds do not breed annually, although one cannot say whether this applies to all individuals. Evidence in the case of the Fulmar has recently been presented by Wynne-Edwards (*Proc. Zool. Soc.*, A, 1939, 127), who discusses the effect of failure to breed on other events in the cycle. In particular, the post-nuptial moult takes place much earlier than in the case of breeding birds. He also points out that non-breeding—whether due to immaturity or to other causes—affects behaviour in varying degree in different species of marine birds. In some, the immature birds resort to the breeding stations in summer ; in others, the immature birds remain during that season in the winter-quarters of the species.

There are also interesting phenomena which suggest the action of some cyclical factor in the environment, operating at intervals of a few years and affecting whole communities simultaneously. The work of Elton (*Brit. J. Exp. Biol.*, 1924, 119 ; etc.), in particular, has shown that periodicities of this kind among mammals—made manifest in fluctuations in the population level—are often remarkably regular. In some cases the periodicity is that of the sun-spot cycle of approximately eleven years, which is known to have climatic effects. Among small rodents in Arctic and sub-arctic lands, a cycle of about four years is common. The periodic fluctuations in the Lemming population provide the classical example.

In the case of birds, various authors have drawn attention to the periodic failure to breed on the part of certain species in the Arctic, and the question has been discussed generally by Bertram, Lack and Roberts (*Ibis*, 1934, 824). In some seasons there is little or no breeding on the part of the species affected, which may include the Snowy Owl, Long-tailed Skua, Glaucous Gull, Arctic Tern, Red-throated Diver, Eider Duck, and other members of the same groups—but

apparently no Passerine or Limicoline birds. A similar cycle, marked by much reduced breeding in some years, has been reported from high levels in Scandinavia, affecting the Rough-legged Buzzard and other birds of prey, and also the Willow-Grouse. It will be noted that, with the exception of the last-named, all these are either predatory or aquatic species. The phenomenon seems to have a periodicity of about four years, and non-breeding coincides with a scarcity of Lemmings. In some instances, such as the Snowy Owl and Long-tailed Skua, there is probably a direct relationship between the two facts. In others, such as the Eider Duck and Willow-Grouse, there may be some common factor—presumably climatic—influencing these birds and the Lemmings alike ; but, whatever it may be, it leaves certain other kinds of bird apparently unaffected.

Just as there are very lean years, so also are there very good breeding years among the birds which prey on the small rodents. The Snowy Owl, reproducing in maximum numbers in a good Lemming year, is a case in point. This in turn may be reflected in an abnormal migration in the following winter : thus, in North America, large invasions of Snowy Owls are recorded at intervals of about four years.

The periodic irruptions of such birds as the Waxwing and Crossbill—at perhaps not very regular intervals—call for some different explanation. In the most remarkable case of all, Pallas's Sandgrouse, Elton has suggested that the sun-spot cycle was in evidence, large irruptions taking place at intervals of about twenty-two years (1863, 1888, 1908), with smaller ones tending to fall mid-way between. Unhappily, this interesting phenomenon now appears to be entirely in abeyance.

Untimely manifestations. Reverting to annual periodicity, one notes that the phases of the behaviour cycle are sometimes imperfectly synchronized with the seasonal changes in an abnormal year. Cases of untimely breeding and untimely migration are familiar—either premature or unduly delayed in relation to the weather. Or there may be an overlapping of phases, as when the migration urge conflicts with the parental urge and a late brood is deserted.

It also happens that manifestations of the cycle are suppressed, because the appropriate phase has passed without an opportunity for action. Thus, Rowan's experimental birds disappeared when released in the physiological state appropriate to migration ; but when released after they had entered their winter phase they made no attempt to depart. He has described a similar thing on a large scale among wild Mallard which in a mild autumn failed to leave at the usual time : when the external stimulus did at length come, it was no longer effective.

As regards the periodical non-breeding of some Arctic birds, already mentioned, Lack (*Proc. Zool. Soc.*, 1933, 231) has suggested that it may be due to delayed appearance of the nesting sites owing to late melting of snow and ice. Observation of the colonies of Arctic Tern on Bear Island showed that the date of nesting is in fact affected by such conditions. Since birds cannot remain in full breeding condition for more than a limited time, the opportunity to nest may sometimes come too late to be utilized.

Individual differences in behaviour. Inherent rhythm may be plausibly invoked as an explanation of differences in behaviour exhibited by individuals of the same species in a single locality. A good example is that of so-called " partial migration," where some of the individuals may be sedentary throughout the year while others native to the same district perform definite movements of considerable extent. The individuals have, presumably, the same inherited tendencies, and they are subject to identical environmental influences : yet some behave in a strikingly different way from others.

This point has been investigated by Nice (*Condor*, 1933, 219) in the Song-Sparrow of North America, in careful studies of communities of distinctively marked birds. The evidence she obtained was to the effect that the differences were not related to the ages of the birds or to inheritance, but possibly to weather conditions at the time of migration. The underlying presumption is that individuals vary in the dates at which they are physiologically ready and thus do not in fact receive identical stimuli at the effective times.

Some differences in reproductive behaviour may be capable of explanation in like manner. Just as whole communities may be prevented from breeding in certain years under extreme conditions in the Arctic, so may a proportion of individuals be affected in a less exacting environment. The phases of the cycle are not simultaneous in all individuals, and in some they may fail to fit the opportunities presented.

It must, of course, be remembered that there are other possible reasons for individual failure to breed. Mention may be made, for instance, of the interesting theory put forward by Fraser Darling (' Bird Flocks and the Breeding Cycle,' 1938), that in social species the size of the community is an important stimulus : breeding tends to be more regular and successful in large colonies than in small groups. Although the actual evidence supporting this view is at present slight, there are some suggestive indications.

Group differences in behaviour. The final point to be made here is perhaps exemplified by the unusual irregularity which is shown in the breeding season and times of migration of the Crossbill. In his monograph on the species, Griscom (*Proc. Boston Nat. Hist. Soc.*, 1937, 77) suggests that there may be communities which have different breeding seasons because the individuals composing them respond to different environmental factors. This, he points out, is easier to believe than the alternative that the same birds respond quite differently in different years. The fact that the communities often change their breeding grounds makes the observational evidence as to breeding seasons difficult to interpret. The subject has also been discussed by McCabe and McCabe (*Condor*, 1933, 136).

Differences of this kind are definitely known in the case of some tropical birds. In these a species may be divided into two groups occupying the same local area. As already mentioned, the cycle is an annual one ; but some individuals breed at the beginning of the rainy season and others at the beginning of the dry. Whatever factors are responsible for this difference, as Griscom points out, it is of obvious advantage for the survival of the species as a whole.

On the other hand, if the division into two breeding groups is absolute, or nearly so, it is clear that there is an isolation as

complete as that produced by any geographical separation. In that case, some divergence in form should eventually result ; and it may be that some races or species have arisen in this way. Outside the tropics the chances of a wide difference in breeding season are obviously less, but even a small difference—once sharply established—would suffice to eliminate interbreeding.

In conclusion, this brief review does not pretend to do more than touch superficially on a series of points. Its aim has been to show that the question of periodicity and rhythm is involved in a number of aspects of bird-life, and thus to suggest that it is one deserving further study by ornithologists.

The World Distribution and Numbers of Breeding Gannets.

Mr. James Fisher, on behalf of himself and Mr. H. G. Vevers, remarked that Gurney ('The Gannet,' London, 1913) was the first authority to realize the possibility of a census of the world's Gannets (*Sula bassana* Linnæus). This figure, based on counts and estimates at the known colonies up to 1908, was 101,000 breeding birds. Messrs. Wynne-Edwards, Lockley and Salmon (*Brit. Birds*, xxix. 1936, pp. 262–76) were the next to revise this figure, and brought it up to 156,000 breeding pairs, based on counts and estimates in various years up to 1935. But no attempt had ever been made to secure counts from all the colonies in one year. This year (1939) a team of ornithologists made an attempt to do this, and it was successful in counting all but 2 per cent. of the birds.

It is our purpose to give here but the bare results of this census. We hope to publish elsewhere the history of each colony, and the general conclusions to which we have arrived.

The existing colonies to-day are as follows :—

England.

(1) Bempton Cliffs, Yorkshire. Birds appeared here first in 1924, first laid an egg in 1937, and this year Mr. Malcolm Stewart counted four occupied nests.

Wales.

(2) Grassholm. Mr. R. M. Lockley estimated about 6000 nests this year. The colony was probably first occupied between 1820 and 1860.

Scotland.

(3) Scar Rocks, Luce Bay. The Rev. J. M. McWilliam (*Brit. Birds*, xxxii. 1939, pp. 105–7) found the Gannet breeding here for the first time this year. One young bird was seen.

(4) Ailsa Craig, Firth of Clyde. The authors have spent a week here in each of the last four years. This year 5419 pairs were counted.

(5) Bass Rock, Firth of Forth. Mr. J. Bain, a lighthouse keeper who is also an experienced ornithologist, counted 4374 pairs this year.

(6) St. Kilda. Dr. J. S. Huxley, Mr. E. M. Nicholson and Mr. James Fisher counted 16,900 pairs here in 1939.

(7) Sula Sgeir (near North Rona). Mr. James Fisher counted 3970 pairs here this year, and Dr. F. Fraser Darling and Mr. R. Atkinson also paid useful visits.

(8) Sule Stack (near Sule Skerry). Mr. James Fisher counted 3490 pairs here this year.

(9) Noss, Shetland. Dr. J. S. Huxley, Dr. C. P. Blacker and Mr. James Fisher counted 1830 pairs here in 1939. The colony was first established in 1914.

(10) Hermaness, Shetland. Mr. Malcolm Stewart's result for 1939 was 2611 pairs. This colony was first established in 1917.

Ireland *.

(11) Little Skellig, Co. Kerry. Mr. S. Marchant (*Brit. Birds*, xxxii. 1939, pp. 320–5) estimated *c.* 9500 pairs here in 1938, and Miss Clemence Acland's account of her visit in 1939 leads us to believe that no significant change in numbers has taken place.

(12) Bull Rock, Co. Cork. Mr. S. Marchant's 1938 count was *c.* 470 pairs, and Messrs. H. E. Wall and L. P. Madge

* A report of breeding on the Stags of Broadhaven, Co. Mayo, was carefully checked by Major R. F. Ruttledge and Mr. Angus Gore-Booth and found to be unfounded.

found no great change in 1939. Birds were first present in 1853 and first bred in 1856.

(13) Great Saltee, Co. Wexford. No nest was found in 1939, though birds were about.

Faroes.

(14) Myggenaes Holm. Mr. H. G. Vevers found 1473 pairs breeding here this year.

Iceland.

(15) Westmann Islands. Mr. H. G. Vevers puts the 1939 population at 4359 pairs.

(16) Eldey. A landing was made here in 1939 by Mr. H. G. Vevers's party. 9328 pairs.

(17) Grímsey. Mr. H. G. Vevers counted 45 pairs in 1939.

Canada.

(18) Bird Rocks, Magdalen Is. The most recent count is that of Mr. A. O. Gross (*Auk*, liv. 1937, pp. 12–42), who estimated 2500 birds on the rocks in 1934. Allowing for non-breeders, this can be interpreted as *c.* 1000 pairs, though a count of 500 pairs in 1932 may be more reliable.

(19) Bonaventure Island, Gaspé, Quebec. Communications from three separate observers prompt us to put the present population at *c.* 7200 pairs.

(20) Gull Cliff Bay, Anticosti Island. First mentioned in 1922, this colony had *c.* 500 pairs in 1928.

Newfoundland.

(21) Cape St. Mary. Messrs. O. J. H. Davies and R. Keynes, who spent nine days here this year, put the total at *c.* 5000 pairs. Birds were not breeding in *c.* 1877, but were in 1879.

(22) Funk Island. Mr. E. T. Gilliard (*Auk*, liv. 1937, pp. 379–81) found seven breeding pairs here in 1936. Birds were not breeding in 1934, but were in 1534.

It can thus be seen that the present breeding population of the Gannet is *c.* 167,000 birds, of which *c.* 109,000, or between 65 and 66 per cent., breed in the British Isles,

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following three notes :—

(1) On the Status and Distribution of the Races of *Pycnonotus tricolor* (Hartlaub) occurring in Eastern Africa.

Sclater, Syst. Av. Æthiop. ii. 1930, p. 371, recognizes five races as occurring in Eastern Africa. Friedmann, Bull. 153, U.S. Nat. Mus. 1937, p. 111, differs from Sclater in one or two points and also upholds *P. t. minor* Heuglin. Bannerman, Bds. Trop. W. Afr. iv. 1936, p. 135, gives reasons for considering *P. minor* a synonym of *P. tricolor*. We have measured and examined the series of both in the British Museum collection and agree with Dr. Bannerman's decision. The races we can recognize in Eastern Africa, and their distribution, are as follows :—

Pycnonotus tricolor tricolor (Hartlaub).

Wing 83–101 mm.

Distribution.—Angola, northern Damaraland and the lower Congo to Northern Rhodesia, western Tanganyika Territory, north-eastern Belgian Congo, northern Cameroon, and Uganda to the Sudan.

Pycnonotus tricolor layardi Gurney.

Wing 87–107 mm.

Distribution.—Eastern Cape Province, Natal, and Transvaal to Southern Rhodesia, Nyasaland, and the Zambesi.

Pycnonotus tricolor micrus Oberholser.

Wing 84–98 mm. Of this race we consider *P. t. naumanni* Meise, O. M. 1934, p. 116 : Lipumba, south-western Tanganyika Territory, to be a synonym, as the characters given are to be found in other areas, and *P. t. micrus* is not appreciably smaller than *P. t. layardi*, but can be upheld by being rather darker on the upper side. Meise's wing measurements of 96–97 mm. fall within the measurements of *P. t. micrus*, and his largest (100 mm.) is only 2 mm. over the British Museum series.

Distribution.—Coastal areas of Kenya Colony from Malindi southwards and Tanganyika Territory as far west as the Arusha District and Tabora south to Portuguese East Africa, but not reaching the Zambesi.

Pycnonotus tricolor fayi Mearns.

Wing 84–102 mm.

Distribution.—Kenya Colony from Mt. Kenya and Athi westwards to Lake Victoria and Mt. Elgon.

(2) On the Status and Distribution of the Races of *Pycnonotus dodsoni* Sharpe.

Sclater, Syst. Av. Æthiop. ii. 1930, p. 370, does not recognize any races. Friedmann, Bull. 153, U.S. Nat. Mus. 1937, p. 105, recognizes three races, and more recently van Someren. Journ. E. A. & Uganda Nat. Hist. Soc. xiv. 1939, p. 62 (sketch-map) recognizes three races and describes a fourth, *P. tricolor chyulu*, placing all as races of *P. tricolor* (Hartlaub).

The quite good series in the British Museum shows that no races of *Pycnonotus dodsoni* can be recognized, as specimens from the north Paré Mountains and Tsavo do not differ from those from British Somaliland, and we therefore consider all described races, including *Pycnonotus tricolor chyulu* van Someren, must become synonyms.

The distribution of *Pycnonotus dodsoni* Sharpe overlaps into the area of *Pycnonotus tricolor micrus* Oberholser, and it must therefore be treated as a species, and not as a race, of *Pycnonotus tricolor*.

The distribution of *Pycnonotus dodsoni* is as follows :— Central Abyssinia and both British and Italian Somaliland to the country east of Mt. Kenya as far south as Tsavo and north Paré Mountains, north-eastern Tanganyika Territory.

(3) On the Status of *Phyllastrephus placidus grotei* Reichenow, O. M. 1910, p. 8. : Mikandini, south-eastern Tanganyika Territory.

In the Bull. B. O. C. lvii. 1937, p. 125, Moreau reviews the races of *Phyllastrephus fischeri fischeri* (Reichenow), but does not mention the above race.

As we are at present unable to obtain the type, we have carefully examined the description, measurements given, and the coloured figure on plate 8, J. f. O. 1912, p. 528, which we have closely compared with specimens in the British Museum collection, and are satisfied that *Phyllastrephus placidus grotei* Reichw. must be placed as a synonym of *Phyllastrephus fischeri placidus* (Shelley).

8 JAN 1940
PURCHASED

9 FEB 1940
PURCHASED

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXVIII.

The four-hundred-and-twenty-third Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, January 10, 1940.

Chairman : Dr. A. Landsborough Thomson.

Members present :—Miss P. Barclay-Smith ; F. J. F. Barrington ; P. A. Clancey ; James Fisher ; Miss E. Godman ; Capt. C. H. B. Grant (*Editor*) ; B. G. Harrison ; Dr. J. M. Harrison ; Dr. K. Jordan ; Rev. F. C. R. Jourdain ; N. B. Kinnear (*Acting Hon. Secretary*) ; Miss C. Longfield ; Dr. G. Carmichael Low ; J. D. Macdonald ; C. W. Mackworth-Praed ; Lt.-Col. H. A. F. Magrath ; R. E. Moreau ; J. H. Newman ; Mrs. J. B. Priestley ; Miss G. Rhodes ; W. L. Sclater ; D. Seth-Smith ; H. F. Witherby ; C. de Worms.

Guests of the Club :—David Lack ; Dr. Lambert Lack.

Guests :—Mrs. J. Fisher ; Miss C. E. Godman ; Mrs. R. E. Moreau ; Mrs. A. L. Thomson ; Mrs. H. F. Witherby.

Members, 25 ; Guests of the Club, 2 ; Guests, 5 ; Total 32.

The Galapagos Finches.

Mr. David Lack said :—Only a very brief account is given here, as it is hoped to publish full accounts later in ' The Ibis ' and other journals. The Galapagos Finches (Geospizinæ) have attracted attention since the visit of Charles Darwin in the ' Beagle.' The writer gratefully acknowledges grants from the Royal Society and the Zoological Society to assist him in a study of the breeding and ecology of these birds, which, though well known from skins, were almost unknown as regards habits. The British Ornithologists' Union, the British Ornithologists' Club, and certain private individuals further assisted the expedition by providing grants for another member, Mr. L. S. V. Venables. The third ornithologist in the party was W. H. Thompson, to whom I am extremely grateful for his assistance with the field observations on the Geospizinæ. I must also thank Dr. Julian S. Huxley for his continued interest in, and help to, the expedition.

When we came to live in them, the Galapagos Islands proved not nearly such an earthly paradise as recent writers—most of whom spent only a few days there, and slept well off-shore in comfortable yachts—had led one to expect. Although relatively cool for the Equator, with day temperatures averaging 87° Fahrenheit on the coast, the humidity made one very listless during the heat of the day, and between 5.30 p.m. and dawn, virulent mosquitoes made life impossible except under a mosquito net. Fleas, scorpions, cactus spines, and, on Chatham Island, huge numbers of introduced black rats were further disadvantages. Nor is it true that the islands are free from disease, since one of the party was extremely ill with dysentery. Malaria, however, seems absent. In the coastal belt, travel is extremely difficult, owing to the combination of loose lava boulders and closely growing thorn bushes and cactus. Indeed, many places are almost impenetrable, and machetes are indispensable. Fortunately, on both Chatham and Indefatigable Island, where we stayed, the local inhabitants have cut a number of trails. The inhabitants may be briefly mentioned. At Progeso, in the hills on Chatham Island there is quite a large village of Ecuadorian Indians, brought there

as cheap labour, and a few European settlers. There is a good supply of water brought down in a pipe line from the hills, but unfortunately the Indians do their washing in this stream above the village. On the coast, at Wreck Bay, there is a garrison of soldiers, of uncertain disposition towards their Governor, though we had no trouble with them. Water is brought down by oxen. On Indefatigable Island there are many fewer soldiers and Indians. There are, however, nearly a hundred European settlers of some seven nationalities. In most cases, though friendly to us, they were otherwise friendly only to members of their own nationality, with consequent disadvantages all round. At Academy Bay there are slightly brackish wells and, in the rainy season, rainwater collected off roofs. Mainly as a result of the settlers, the tortoises on Indefatigable seem doomed to extinction. Indeed, this probably applies to them throughout the group. As yet, most of the birds seem safe, though cats have lately been introduced on Indefatigable Island.

The field study of the Finches showed them to be extremely uniform in their breeding behaviour, which follows a typical territorial pattern. As regards feeding habits, the five genera represent an adaptive radiation, *Geospiza* to seeds, *Platyspiza* to fruit, leaves etc., *Camarhynchus* and *Cactospiza* to larger insects, primarily excavated in wood, also picked off vegetation, and *Certhidea* to small insects picked off the vegetation. *Cactospiza pallida* excavates in wood for insects and then picks a cactus spine or small twig and, holding it lengthwise in its beak, inserts it up the hole to drive the insect out. This seems one of the few recorded instances of the use of tools in the animal kingdom, outside man.

The chief interest of the Geospizinæ is in the great variations in the shape of the beak. In some forms these can clearly be correlated with differences in diet, *e. g.*, the Finch-like beak of the grain-eating *Geospiza*, the Nuthatch-like beak of *Cactospiza*, and the Warbler-like beak of *Certhidea*. However, other differences, particularly those between closely related species, cannot be correlated with differences in diet. In particular, *Geospiza magnirostris* and *G. fortis* apparently occupy an identical ecological niche, but have a marked difference in

beak size. Field observations suggested that closely related species recognize each other primarily by beak differences. Not infrequently we saw an aggressive male fly down as if to attack another male trespassing in its territory, come round in front of the intruder, and then—if it was an alien species—the whole behaviour would often collapse. The beak also plays a prominent part in courtship, as the male feeds the female. It therefore seems probable that the chief significance of the beak differences in the lives of closely related species of Geospizinæ is as a means of recognition.

The chief difference between Geospizinæ and other insular birds is that one finds several forms on each island, and the manner of their evolution has been a matter of considerable dispute. Dr. P. R. Lowe has supposed that they are mainly the segregates of a hybrid swarm. Dr. Stresemann, on the other hand, supposes their speciation to have followed a line similar to that of most birds, *i. e.*, through geographical isolation on different islands, leading to the formation of subspecies, these subspecies subsequently colonising other islands and keeping segregated from the form present there, hence forming separate species. I think it probable that many species of Geospizinæ have evolved in the way suggested by Dr. Stresemann, this being particularly clear in the case of *Geospiza difficilis*, derived from *G. fuliginosa* via the Tower Island form, and of *Camarhynchus pauper*, probably derived via *C. affinis* from *C. psittacula*. On the other hand, some forms are so variable that it seems probable they are of hybrid origin. This particularly applies to the three forms of *Geospiza conirostris*, found on the small isolated islands of Hood, Tower, and Culpepper. Again, on the little islet of Daphne a *Geospiza* sp. occurs which is highly variable, and seems intermediate in characters between *G. fortis* and *G. fuliginosa*. Two other highly variable forms are *G. fortis* on Charles Island and *G. fuliginosa* on Chatham Island, which perhaps originated from hybrids of two island forms of the same species.

The male specimens of *Geospiza magnirostris* collected by Darwin on the voyage of the 'Beagle' are larger than any obtained subsequently. Unfortunately, as Darwin himself admitted, the specimens from the different islands got mixed

up. These specimens have, by different writers, been assigned to Chatham Island or Charles Island, but *G. magnirostris* has never otherwise been recorded on either of these islands, and the writer agrees with Swarth in thinking it far more probable that they came from James Island. From their racial characters it is certain that some specimens of other species collected by Darwin came from James Island, and his *G. magnirostris* come closer to the type on James Island than any other. They show that a measurable amount of evolution, as regards the size of both wing and beak, has occurred in the sixty to seventy years' interval before the next main collections were made.

The Geospizinæ present many puzzles for the taxonomist. Thus there are a number of specimens which cannot be allocated to any known species. Some of these seem intermediate in character between two known species, and, in a few cases, between two genera, but whether they represent hybrids or freak variants of one or other species is not known. The subspecific variations also provide difficulties. Thus *Geospiza fortis* is smaller on the northern islands of Abingdon, Bindloe, James, and North Albemarle, and larger on the southern islands of Chatham and South Albemarle—so much so, that separate races might have been named. However, on Charles Island, the most southerly island of all, and also on the centrally situated Indefatigable Island, a form of *G. fortis* is found varying between the smallest on the northern islands and the largest on South Albemarle and Chatham.

The most puzzling feature of all is perhaps the existence of three species, *Geospiza fuliginosa*, *G. fortis*, and *G. magnirostris*, which differ from each other solely in general size and in the relative proportions of the beak. Further, each species, and in particular *G. fortis*, is variable, and the dividing line between each species is extremely narrow. Hence, it happens that the smallest individuals of *G. fortis* are closer in measurements to the largest specimens of *G. fuliginosa* than they are to the largest individuals of their own species, and the largest *G. fortis* are closer to the smallest *G. magnirostris* than to the smallest of their own species. To make matters more complicated, the habitats of *G. magnirostris* and *G. fortis* seem almost identical, while that of *G. fuliginosa* is mainly the same. The foods of

the three species are also very similar, and their songs overlap. One wonders how, under these circumstances, the three species manage, at least for the most part, to keep segregated. The psychological reactions of the birds to beak differences must play an important part.

I have here drawn attention only to some of the many interesting problems raised by these birds, and for full details the forthcoming papers in ' The Ibis ' should be consulted.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following four notes :—

(1) On the Races of *Mirafra africana* Smith occurring in Eastern Africa.

In the Bull. B. O. C. lix. 1939, p. 157, we recognized four races, placing *Mirafra africanus dohertyi* Hartert and *Mirafra africana harterti* Neumann as synonyms of *Mirafra africana athi* Hartert.

Dr. Van Someren has since very kindly sent us a series of fourteen of these Larks, including four adults and one young bird from Simba. This has caused us to re-examine the series in the British Museum collection, and we are now able to recognize *M. a. harterti*.

The five specimens from Simba confirm our opinion that *M. harterti* is a race of *M. africana*.

We are unable to recognize *M. a. dohertyi* as being distinct from *M. a. athi*. The colder and greyer tone of the latter, and the rather warmer tone (light sandy edges to the feathers of the upper parts as against pale buff or stone buff) of the former are not racial characters, and must be considered as local colour phases for the following reasons.

Van Someren's two specimens from the Kapiti are colder and greyer ; five specimens in the British Museum from or near Machakos are warmer in tone ; two specimens in the British Museum collection from Athi River are colder and greyer, but not quite so cold and grey as the two specimens from Kapiti ; and of the two specimens from Nairobi and Nairobi River (the former in the British Museum and the

latter in the Van Someren collection) the former is warmer in tone and the latter colder and greyer ; two specimens in the British Museum from Loliondo, north-eastern Tanganyika Territory, are warmer in tone, and one in the Van Someren collection from Apis Rock, 10 miles from Loliondo, north-eastern Tanganyika Territory, is colder and greyer.

We therefore find the warmer tone birds from Machakos lying in between the colder and greyer birds from Kapiti and Athi River ; and at Nairobi and in north-eastern Tanganyika Territory we find both occurring together. This precludes any question of geographical distinction, and therefore *M. a. dohertyi* must become a synonym of *M. a. athi*.

The characters and distribution of *M. a. athi* and *M. a. harterti* are as follows :—

Mirafra africana athi Hart.

Mirafra africana athi Hartert, Nov. Zool. vii. 1900, p. 46 : Athi Plains, Kenya Colony ; of which *Mirafra africana dohertyi* Hartert, Bull. B. O. C. xix. 1907, p. 93 : Escarpment, Kenya Colony, is a synonym.

Edges of feathers and upper parts light sandy to pale buff or stone buff. Wing 86 to 105 mm. Hind claw similar to *M. a. tropicalis* Hartert.

Distribution.—Kapiti Plains, north to Nyeri, west to Sigulu Island, north-east Lake Victoria, and south-west through Loita Plains to north-eastern Tanganyika Territory west of Mt. Kilimanjaro.

Twenty-seven specimens examined from Kapiti Plains, Machakos, Meu River 20 miles east of Machakos, Chisangue near Machakos Road Station, Athi River, Nairobi and Nairobi River, Nyeri, Kijabe, Naivasha, Nakuru, Soguro Sigulu Island, Loita Plains, Loliondo, Apis Rock 10 miles from Loliondo, and Ngare Nairobi west side of Mt. Kilimanjaro.

Mirafra africana harterti Neum.

Mirafra africana harterti Neumann, Bull. B. O. C. xxiii. 1908, p. 45 : Kiboko River, South Ukamba, south-eastern Kenya Colony.

Edges of feathers of upper parts cinnamon-brown or deep tawny-brown, giving the whole bird a deep warm tone. Quite

a distinct race, differing markedly in general colour from the other races. Wing 94 to 107 mm. Hind claw similar to *M. a. tropicalis*.

Distribution.—South Ukamba to Taita (Simba and Kiboko River). Four adults and one young bird examined, all from Simba. This race is not represented in the British Museum collection.

(2) On the Status of *Turdinus barakæ* Jackson, Bull. B. O. C. xvi. 1906, p. 90 : Kibera, western Uganda.

Jackson compared his new race with *Turdinus jacksoni* Sharpe, Bull. B. O. C. xi. 1900, p. 29 : Nandi, Kenya Colony (=*Pseudoalcippe pyrrhopterus* (Reichw. & Neum.), O. M. 1895, p. 75 : Mau, Kenya Colony) ; and not with *Illadopsis rufipennis* (Sharpe), Ann. & Mag. Nat. Hist. (4) x. 1872, p. 51 : Gabon.

Our comparison of the six specimens in the British Museum collection from Uganda and northern Belgian Congo with the good series from Cameroon, shows that there are no characters by which Uganda and Cameroon specimens can be separated one from the other, and we are therefore of opinion that *Turdinus barakæ* Jackson must become a synonym of *Illadopsis rufipennis* Sharpe.

(3) On the Status of *Phyllastrephus alfredi itoculo* Vincent, Bull. B. O. C. liii. 1933, p. 134 : Netia, Mozambique Province, Portuguese East Africa.

The British Museum collection contains the type (a male) and three females of this race. On comparing these with the two specimens of *Phyllastrephus münzneri* Reichenow, O. M. 1916, p. 181 : Sanyi, Mahenge District, Tanganyika Territory, in the British Museum collection, *i. e.*, an adult male from middle Sigi Valley, Amani, which was compared with the type in 1937 (see Bull. B. O. C. lvii. 1937, p. 128), and an adult female from the east Uluguru Mts., we find that all six specimens have the same characters and agree well one with the other. Thus there is no doubt that *P. a. itoculo* Vincent must become a synonym of *P. münzneri* Reichenow. We are also of the opinion that *Phyllastrephus münzneri* is not closely related to *Phyllastrephus alfredi* Shelley, Bull. B. O. C., xiii. 1903, p. 61 :

Mwenembe, North Nyasa District, Nyasaland, as it is larger, has a longer bill, and differently coloured under wing-coverts and edges to the inner webs of the flight feathers.

The known distribution of *Phyllastrephus münzneri* is from east Usambara ; east Uluguru, and Mahenge District, Tanganyika Territory to Netia, near Mozambique, Portuguese East Africa.

(4) On Fringilla angolensis.

Dr. E. Hopkinson has very kindly drawn our attention to the fact that this name has been introduced into African ornithology by both Linnaeus and Gmelin, and asks if *Fringilla tobaca* Bonn. & Vieillot can be used. Linnæus's name has priority, and it is therefore Gmelin's name that is in question.

Gmelin's *Fringilla angolensis* is founded on the yellow-rumped Angola Serin, and *Fringilla tobaca* is also described as having a yellow rump. Bonn. and Vieillot give a reference to Edwards' Bds. 1851, p. 179, pl. 179, top figure, but this is not a yellow-rumped bird, and also has white bases to the primaries. This, however, does not invalidate Bonn. and Vieillot's name and description, as it is not based on Edwards' figure. Therefore *Fringilla tobaca* Bonnaterre & Vieillot, Enc. Méth, iii. 1823, p. 969 (the type-locality of which can be fixed as Angola), must be used instead of *Fringilla angolensis* Gmelin, Syst. Nat. ii. 1788, p. 918 (=*Poliospisa angolensis angolensis*), which is preoccupied by *Fringilla angolensis* Linnæus, Syst. Nat. 10th ed. 1758, p. 182 (=*Uræginthus angolensis angolensis*).

9 FEB 1940
PURCHASED

BULLETIN

11 MAR 1940
PURCHASED

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXIX.

The four-hundred-and-twenty-fourth Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, February 14, 1940.

Chairman : Dr. A. Landsborough Thomson.

Members present :—F. J. F. Barrington ; Miss J. M. Ferrier ; Capt. C. H. B. Grant (*Editor*) ; B. Guy Harrison ; R. E. Heath ; Dr. E. Hopkinson ; Miss E. P. Leach ; Miss C. Longfield ; Dr. G. Carmichael Low ; Dr. P. R. Lowe ; J. D. Macdonald ; C. W. Mackworth-Praed ; Dr. P. Manson-Bahr ; J. G. Mavrogordato ; Col. R. Meinertzhagen ; Miss G. M. Rhodes ; B. W. Tucker.

Guests :—Miss T. Clay ; Mrs. P. R. Lowe ; Mrs. C. W. Mackworth-Praed.

Members, 18 ; Guests, 3 ; Total 21.

New Races of Rose-Finch, Suthora and Nuthatch collected by Messrs. Ludlow and Sherriff in South-east Tibet.

Mr. N. B. Kinnear sent the following for exhibition :—

1. **Carpodacus thura charmensis,** subsp. nov.

Description.—Male similar to *C. t. thura* Bonaparte, from Nepal, but differs in the paler edges of the feathers of the head and mantle and the rather darker rose-pink below. The female also has the edges of the feathers on the upper side paler, but the most striking difference is the entire absence of the chestnut-brown on the throat and breast. The postocular streak is creamy-white without a brown tinge.

Distribution.—*C. t. thura* is found in Nepal, Sikkim, Bhutan, and S.E. Tibet. North of the main range it is replaced by the new race which was collected in the Provinces of Charme, Tsari, and the Tsangpo Valley.

Types.—Male, May 9, 1936, Kyimpu Le La, between Chayul and Charme, 13,000 ft. No. 3831. Brit. Mus. Reg. no. 1937.1.17.836 ; female, May 8, 1936, Le La, 15,000 ft., S.E. Tibet. No. 3826. Brit. Mus. Reg. no. 1937.1.17.837.

Measurements.—8 males, wing 83–88 (11 males typical, 80–85 mm.) ; 7 females, wing 81–85 mm. (7 females typical, 80–84 mm.).

Remarks.—There appears to be no difference between the males of *C. t. charmensis* and *C. t. feminina.* The females, however, are not as brown above and are whiter below.

2. **Suthora fulvifrons chayulensis,** subsp. nov.

Description.—Differs from *S. f. fulvifrons* Hodgson in the paler colour of the upper side, especially on the rump. On the underside the fulvous does not usually extend below the breast and is paler in colour, while the abdomen and thighs are greyer.

Type.—Male, April 29, 1936, Lung, Chayul Valley, S.E. Tibet, 11,000 ft. ; collected by F. Ludlow and G. Sherriff. Brit. Mus. Reg. no. 1937.1.17.838.

A juvenile obtained from a nest at Lo La, Pachakshira, is much darker especially on the underside, and lacks the rich fulvous tint of a similar aged skin from Native Sikkim.

Remarks.—The Suthora is now divided into three races :—

Suthora f. fulvifrons Hodgson : Nepal, Sikkim, and Bhutan.

S. f. chayulensis : Southern Tibet.

S. f. cyanophrys David & Oust. : Shensi, Szechuan, and N.W. Yunnan.

This last differs from the Tibetan birds in the brighter coloured head, and blacker and more pronounced eye-stripes.

3. **Sitta europæa konyboensis,** subsp. nov.

Description.—Similar in colour to *Sitta europea nebulosa* La Touche, but larger.

Type.—Male, April 15, 1938. Molo, 11,000 ft., S.E. Tibet. No. 4462. Brit. Mus. Reg. no. 1938.12.13.272.

Measurements.—

S. e. konyboensis :

10 males, wing 83–86 ; bill from skull 19–20 mm. 3 females, wing 82-85 ; bill from skull 19–21·5 mm.

S. e. nebulosa :

Males, wing 76–79 ; bill from skull 17–18 mm. Females, wing 80–84 ; bill from skull 17–18 mm.

A Hoopoe in winter in England.

Mr. N. B. Kinnear also sent for exhibition :—

A Hoopoe taken at Swanmore, Southampton, on January 17, 1940, by Major M. Portal.

A new Race of Francolin and a new Race of Lark from the Sudan.

Mr. J. D. Macdonald exhibited the following new races :—

Francolinus clappertoni cavei, subsp. nov.

Description.—Closely resembling *F. c. gedgei* O.-Grant, but differing from it by the darker, rather sooty-brown colour of the upper parts.

Distribution.—Plains south-west of Boma Hills, S.E. Sudan.

Type.—Adult male from Katchikan, 25 miles south-west

of Towat, Boma Hills, south-east Sudan, approximate 6° N. by 34° E. : in fresh plumage, just completing moult : collected by Col. F. O. Cave on May 28, 1939, at 1800 feet. Brit. Mus. Reg. no. 1939.7.12.1.

Measurements of Type.—Wing 178, culmen from base 71, tail 77, tarsus 62 mm.

Other characters.—Bill black with edge of gape and nostrils red ; legs black in front, red behind, feet black above, red below ; bare skin around eye red.

Remarks.—The race is represented by the type ; an adult female, obtained on May 29, 1939, by the same collector ; and an immature female obtained by me on February 7, 1939 : all from the type-locality.

The young female was first obtained. It was shot out of a covey put up in the long dry grass beside a pool. They would not flush again, though we beat about for a long time, nor could we catch sight of them on the ground though we could hear them.

This young bird has the black moustache as in *F. c. heuglini* Neum. and *F. c. gedgei*, but the edges to the feathers of the underparts are white instead of cream-coloured, and the centres rather blacker. The wing measures 154 mm.

Colonel F. O. Cave's offer to look for further specimens in the same locality resulted in the securing of the two adults mentioned above, which have cream edges to the feathers of the underparts but are much darker above than either *F. c. heuglini* or *F. c. gedgei*.

Another adjacent race, *F. c. nigrosquamatus* Neum., from the Omo River valley in south-west Abyssinia, appeared from its description to be a young bird. Dr. E. Mayr, of the American Museum of Natural History, very kindly examined the type for me and proved this to be correct. In comparing my immature specimen with it he says that they are about the same age, but that *F. c. nigrosquamatus* has no moustache. The wing length of the type is 152 mm., and an adult female from Lake Zwai associated with this race has a wing length of 170 mm. Dr. Mayr says : " There is no doubt that *F. c. nigrosquamatus* is most closely related

to *F. c. sharpei*, differing primarily by being very much darker."

It is interesting to note that I secured a specimen of *F. c. gedgei* on the southern edge of the Didinga Mountain, little more than a hundred and fifty miles south-west of the Boma Hills, but at the opposite side of the wide flat plain, which in this region forms a low watershed between the Nile and Rudolph basins.

This new race is named in honour of Colonel F. O. Cave.

Mirafra hypermetra kidepoensis, subsp. nov.

Description.—Distinguished from the other races of this species by the chestnut colour of the central section of the feathers of the crown. In this character it resembles the Uganda *M. africana tropicalis*, but is easily separated from it by its larger size, particularly the longer tail, and the proportionately longer first primary. It is a small race of *M. hypermetra*.

Distribution.—Kidepo plain, south of the Didinga mountains, southern Sudan, to plains at base of Mt. Moroto, northern Uganda.

Type.—An adult male from Ero, southern edge of the Didinga mountains, southern Sudan, approx. 4° 6′ N., 33° 44′ E.; collected by J. D. Macdonald on March 17, 1939, at 4000 ft. Brit. Mus. Reg. no. 1939.10.1.85.

Measurements.—Wing 108, culmen from base 21, tail 74, tarsus 31 mm.

Remarks.—The race is represented altogether by four adult males, two from the type-locality and two from the northern Uganda plains about Mt. Moroto and Nakwai hills. The nominate race of this species does not appear to be found west of the Rift Valley, and *M. africana tropicalis* does not extend so far north in Uganda. The following comparison of tail measurements in males should be of some assistance in identification :—

	M. h. hypermetra.	*M. h. kidepoensis.*	*M. a. tropicalis.*
Tail..	76–84 mm.	73–76 mm.	49–66 mm.

Unusual occurrence of Melanism in a Somaliland Roller.

Mr. J. D. Macdonald exhibited this specimen and made the following remarks :—

The Roller *Coracias caudatus* Linn. is distributed in Africa from Somaliland to Angola and Natal. The colour of the breast is a rich vinaceous-lilac, except in the north-eastern limits of its range, where it is greenish-blue. On this difference the latter was described as a separate species, *Coracias lorti* Shelley. It is now regarded as a race of *C. caudatus*, and certain facts indicate that it is not a very stable one. In a series of specimens regularity in the distinguishing greenish-blue coloration is seldom found. It is nearly always mixed with a greater or less quantity of vinaceous-lilac. Further, in regard to birds kept in captivity, the following editorial note appeared in the ' Avicultural Magazine ' for 1926, p. 322 * :—" An important discovery with regard to Rollers has been made by Mr. Whitley. He had several specimens of Lort's Roller (*Coracias lorti*), and these have gradually changed colour and become identical with *Coracias caudatus*." But an even more curious change has taken place in a captive bird. On December 21, 1939, Colonel Hamerton, prosector to the Zoological Society, sent a specimen of this Roller to the Bird Room of the Natural History Museum with the following note :—" The bird arrived in the Zoo $4\frac{1}{2}$ years ago. So far as I can ascertain it had previously been in Mr. Ezra's collection, and he presented it to the Zoo. I do not know what part of Somaliland or Abyssinia it originally came from. Its plumage was apparently of normal type when it came to the Zoo. I can vouch for this, for I was acquainted with the species in the north-west part of Somaliland during my residence in that country. It began to assume a melanistic change in its plumage about four to five months ago. This had no connections with the pathological condition (acute enteritis) which caused its death."

In the specimen, which is exhibited, it will be seen that there has been an extensive infusion of black into the plumage, so that very little of the original coloration is visible.

* Noted in a letter from Mr. Ezra to Mr. Kinnear.

I have been further informed that the change may have extended over a rather longer period, but did not attract attention. It was only during the last moult that it became obvious. There was no abnormal changes in food or temperature during its life at the Gardens, and it lived under the same condition as several other species in which no melanistic tendencies appeared.

I merely wish to put this case on record, and to leave the interpretation of the facts to those who are specially competent to deal with them.

I should like to add, however, that it appears important to remember that in the animal kingdom melanism may be congenital or acquired. The latter form is known among birds, but the former is much less easily authenticated. It is common knowledge that Bullfinches in captivity can be made to go black by being fed on hemp-seed. Therefore it seems to follow that a disease of the alimentary system, and, one assumes, affecting the assimilation of food, may influence the colour of the plumage.

A new Race of Brown Babbler and a new Race of Bulbul from Eastern Africa.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed exhibited the following new races :—

(1) **Illadopsis rufipennis puguensis,** subsp. nov.

Description.—Differs from *Illadopsis rufipennis distans* Friedmann, Proc. N. Engl. Zool. Cl. x. 1928, p. 48 : Usambara Mts., north-eastern Tanganyika Territory, in being paler above, more olivaceous-buff, and lacking the chestnut wash on the wings and tail. Below similar to *I. r. distans.*

Distribution.—Pugu Hills, 20 miles west of Dar-es-Salaam, eastern Tanganyika Territory.

Type.—In British Museum. Male adult. Pugu Hills, inland of Dar-es-Salaam, 1000 ft., July 28, 1938, collected by R. E. Moreau. Brit. Mus. Reg. no. 1939.6.19.2.

Measurements of Type.—Wing 73 ; exposed part of culmen 15 ; tarsus 26 ; tail 61 mm.

(2) **Phyllastrephus flavostriatus vincenti,** subsp. nov.

Description.—Differs from *Phyllastrephus flavostriatus flavostriatus* (Sharpe), Ibis, 1876, p. 53 ; Macamac, eastern Transvaal, in being rather greener above, less olive-brown, and in having a purer grey head ; and from *Phyllastrephus flavostriatus tenuirostris* (Fischer & Reichenow), J. f. O. 1884, p. 262 : Lindi, south-eastern Tanganyika Territory, in having the mantle washed with grey, and in being greyer, less bright, below.

Distribution.—Namuli Mts., Portuguese East Africa, to southern Nyasaland.

Type.—In the British Museum. Male adult. Namuli Mts., Quelimane Province, Portuguese East Africa. Collected by Jack Vincent on July 25, 1932 (collector's no. 1888). Brit. Mus. Reg. no. 1933.3.1.626.

Measurements of Type.—Wing 98 ; tail 95 ; culmen from base 26 ; tarsus 35 mm.

Remarks.—Eight specimens. Named in honour of Mr. Jack Vincent. Vincent described *P. f. litoralis* from Netia, near Mozambique, Portuguese East Africa, comparing it to *P. f. flavostriatus* Sharpe and *P. f. tenuirostris* (Fischer & Reichenow) ; and in the ' Ibis,' 1935, p. 363, gives the distribution as coast of northern Mozambique and " may be expected to extend into the southern littoral of Tanganyika Territory." The southern littoral of Tanganyika Territory includes the type-locality of *Phyllastrephus flavostriatus tenuirostris* (Fischer & Reichenow), J. f. O. 1884, p. 262 : Lindi, south-eastern Tanganyika Territory. The British Museum has a series of forty-nine specimens from Amani, one from the Nguru Mts., two from the Pugu Hills, 20 miles west of Dar-es-Salaam ; and three from Netia, near Mozambique. All these specimens agree perfectly with one another, but all differ from *P. f. flavostriatus* in being greener on the upper parts and brighter below, and from the Namuli Mts. and southern Nyasaland birds in being less grey above. Sclater and Moreau, Ibis, 1932, p. 676, have listed Amani and Nguru specimens under *P. f. tenuirostris.*

It is clear that Vincent renamed the coastal form, and therefore *P. f. litoralis* Vincent must become a synonym of *P. f. tenuirostris* (Fischer & Reichenow). The series in the British Museum of eight specimens from the Namuli Mts., Portuguese East Africa ; three from Cholo Mt. ; two from Soche Forest ; one from Mt. Mlanje ; one from Chiradzulu and one from Lichenya River, southern Nyasaland, agree very well together, and are greyer and less bright below than the coastal race (*P. f. tenuirostris*), and although very close to the southern form (*P. f. flavostriatus*) are rather greener above. These are the specimens which Vincent called *P. f. tenuirostris* (Ibis, 1935, p. 363), but which now require a name.

The distribution of the three races is as follows :—

Phyllastrephus flavostriatus flavostriatus (Sharpe). Natal, Zululand, eastern Transvaal, and eastern Southern Rhodesia.

Phyllastrephus flavostriatus tenuirostris (Fischer & Reichenow). Coastal areas of Tanganyika Territory, as far west as South Paré Mts., Kilosa and Pugu, to the coastal areas of Portuguese East Africa opposite Mozambique.

Phyllastrephus flavostriatus vincenti Grant & Praed. Namuli Mts., Portuguese East Africa, to southern Nyasaland.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following four notes :—

(1) On the Status of *Phyllastrephus fischeri chyuluensis* Van Someren, J. E. A. & U. Nat. Hist. Soc. xiv. 1939, p. 66 : Chyulu Mts., south-eastern Kenya Colony.

Moreau has clearly shown in his review in the Bull. B. O. C. lvii. 1937, p. 125, that there is a complete intergradation of characters from north to south and also considerable individual variation. Although we examined the British Museum series at the time Moreau carried out the review, further specimens have reached the Museum, including one from the Taita Hills, so that we have re-examined the whole question, but still must entirely agree with Moreau that only one race, *P. f. placidus*, can be recognized from Kenya Colony east of the

Rift Valley to Portuguese East Africa, between the 1200 and 7750 feet levels. We are therefore of opinion that *Phyllastrephus fischeri chyuluensis* Van Someren must become a synonym of *Phyllastrephus fischeri placidus* (Shelley).

(2) On the Races of *Eurillas virens* Cassin occurring in Eastern Africa.

The good series in the British Museum collection clearly shows that only three races can be recognized, as follows :—

Eurillas virens virens Cassin, Proc. Philad. Ac. 1857, p. 34 : Cape Lopez, Gabon, of which *Eurillas virens holochlorus* Van Someren, Nov. Zool. xxix. 1922, p. 189 : Sezibwa River, southern Uganda, is a synonym.

Wing 67 to 84 mm.

Distribution.—Gabon to north Angola, east to southern Uganda.

Eurillas virens zombensis Shelley, Ibis, 1894, p. 10 : Zomba, southern Nyasaland ; of which *Andropadus marwitzi* Reichenow, O. M. 1895, p. 188 : Marangu, Kilimanjaro : and *Eurillas virens shimba* Van Someren, J. E. Afr. & Ug. Nat. Hist. Soc. xxxvii. 1931, p. 197 : Ganda Forest, eastern Kenya Colony, are synonyms.

Generally rather paler, above brighter olive-green.

Wing 77 to 89 mm.

Distribution.—North-eastern Northern Rhodesia, Nyasaland, and south-eastern Belgian Congo to Portuguese East Africa north of the Zambesi, Tanganyika Territory, and south-eastern Kenya Colony. Mafia Island.

Eurillas virens zanzibaricus Pakenham, Bull. B. O. C. lv. 1935, p. 111 : Jozani Forest, Zanzibar.

Purer olive-green above than *E. v. virens*, and duller below, but not so bright as *E. v. zombensis*.

Wing 83 to 85 mm.

Distribution.—Zanzibar Island.

(3) On the Status of *Muscicapa somaliensis* Bannerman.

Bannerman compared his birds with *Muscicapa striata* (Pallas), and not with *Muscicapa gambagæ* (Alexander). Sclater & Praed, Ibis, 1918, p. 701, places *M. somaliensis*

as a synonym. Lynes, Ibis, 1925, p. 121, decided that his Kamisa birds were *Muscicapa gambagæ* and not *Muscicapa somaliensis*, and Granvik, Rev. Zool. et Bot. Afr. xxv. 1934, p. 69, inclines to regard *M. somaliensis* as a synonym of *M. gambagæ*, except that he considers the bill of the former is smaller and broader.

In view of this latter opinion we have carefully compared specimens from British Somaliland with West African birds, and find that there is a certain amount of individual variation in size and length of bill, but we are quite unable to see any other character by which they can be separated.

We therefore agree with Sclater & Praed that *Muscicapa somaliensis* Bannerman, Bull. B. O. C. xxv. 1909, p. 20; Waghar Mts., British Somaliland, must become a synonym of *Muscicapa gambagæ* Alexander, Bull. B. O. C. xii. 1901, p. 11 : Gambaga, Gold Coast.

(4) On *Alseonax flavipes* Bates, Ibis, 1911, p. 522.

Bates proposed this name for *Alseonax epulata* Cassin, Proc. Ac. Sci. Philad. 1859, p. 51 : Camma River, Gabon ; but it is preoccupied by *Alseonax flavipes* ~~Layard~~, Stray Feathers, iii. 1875, p. 367 : Ceylon.

We therefore propose :—

Alseonax batesi, nom. nov., for *Alseonax flavipes* Bates, not *Alseonax flavipes* ~~Layard~~.

11 MAR 1940
PURCHASED

13 APR 1940
PURCHASED

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXX.

The four-hundred-and-twenty-fifth Meeting of the Club was held on Wednesday, March 13, at the Rembrandt Hotel, Thurloe Place, S.W. 7, in conjunction with the Annual Dinner of the British Ornithologists' Union.

Dr. Percy R. Lowe, the President of the B. O. U., took the Chair during the Dinner, and Dr. A. Landsborough Thomson, Chairman of the Club, during the subsequent proceedings.

Members of the Union present:—Lt.-Col. F. M. Bailey; H. G. Calkin; Miss T. Clay; E. Cohen; A. J. Currie; H. H. Davis; R. Preston Donaldson; H. J. S. Douglas; F. H. Edmondson; A. H. Evans; G. B. Farrar; J. F. M. Floyd; Roland Green; R. E. Heath; E. J. Hosking; Mrs. H. M. Rait Kerr; Willoughby P. Lowe; Lt.-Col. and Mrs. R. F. Meiklejohn; Miss Frances Pitt; I. M. Thomson; N. Tracy; J. G. Williams.

Members of the Club present:—Miss C. M. Acland; W. B. Alexander; E. C. Stuart Baker; Miss P. Barclay-Smith; F. J. F. Barrington; Capt. A. W. Boyd; The Hon. Guy Charteris; J. M. Fisher; Capt. H. A. Gilbert; Miss E. M. Godman; The Rev. J. R. Hale; B. G. Harrison; Dr. J. M. Harrison; P. A. D. Hollom; Dr. E. Hopkinson;

N. B. Kinnear ; Miss E. P. Leach ; C. W. Mackworth-Praed ; Lt.-Col. H. A. F. Magrath ; Dr. P. H. Manson-Bahr ; J. G. Mavrogordato ; Dr. W. N. May ; Col. R. Meinertzhagen ; A. S. Phillips ; Mrs. M. Priestly ; Miss G. M. Rhodes ; W. L. Sclater ; D. Seth-Smith ; Major M. H. Simonds ; Col. R. Sparrow ; H. Whistler ; H. F. Witherby ; C. de Worms.

Guest of the Club :—P. I. R. Maclaren.

Guests :—L. Arnold ; The Hon. Mrs. F. M. Bailey ; Miss S. Colvin ; Mrs. H. A. Gilbert ; Miss C. E. Godman ; Mrs. C. J. Hosking ; Major Kennedy ; Mrs. Law ; Mrs. Percy R. Lowe ; Mrs. C. W. Mackworth-Praed ; D. H. Meares ; Miss A. Morley ; Dr. F. Murgatroyd ; W. H. Perrett ; Mrs. M. H. Simonds ; S. P. H. Simonds ; Mrs. A. Landsborough Thomson ; Mrs. B. W. Tucker ; Mrs. H. F. Witherby, and 16 others.

Members of the Union, 24 ; Members of the Club, 34 ; Guests of the Club, 1 ; Guests, 35. Total, 94.

Shore-shooting with a Camera.

Mr. Guy B. Farrar showed some slides and made the following remarks :—

The task of photographing wild-fowl on the foreshore is beset with many difficulties. A fowler armed with a 12-bore has only to place himself some forty or fifty yards from birds on the wing ; the photographer armed with a 12-inch lens must induce those same fowl to stand within ten yards of his hiding tent, a distance that must be reduced to feet if he wishes to obtain intimate portraits of his quarry.

Most of my shore-shooting photographs are taken in the Dee estuary on a small sandstone island covered by the highest tides. By selecting a tide that almost, but not quite, covers the rock, and placing my hide on its highest ridges, I occasionally obtain satisfying pictures when the mass of birds crowding the very restricted area of dry land are driven by the rising tide within range of my lens.

It is an unforgetable experience to sit for over an hour literally surrounded by a sea of waders, a living carpet of noisy creatures moving restlessly to and fro in search of untenanted floor-space. The arrival of a Gull or Cormorant causes the small waders to depart in all haste, thus scattering and leaving an open landing space for the new arrival.

I have counted thirteen different species on the island at the same time, and have had Gulls and waders standing so close to my tent that I could have touched them.

The opportunities for this class of nature photography are very limited, the number of tides of suitable height being but three or four during each month. On these particular days the light must be good and the wind moderate, an unusual combination of weather conditions in winter.

My day's "bag" may consist of a few photographs of common waders; it might contain a picture of a bird such as a Grey Plover as yet unphotographed; but more likely never an exposure has been made during the five hours spent in the hide.

But whether the "bag" be great or small, the interest never fails, and what little success attends one's efforts can always be translated into pictures of living birds, permanent trophies, each recalling many anxious and exciting moments spent shore-shooting with a camera.

Slides of the Slavonian Grebe Courtship and Display.

Mr. Eric Hosking showed slides, some in colour, of the courtship and display of the Slavonian Grebe. These photographs were taken in Scotland, and in this particular pair the difference in the plumage colouring between male and female were clearly shown in the brilliant tippet of the male and the lack of this in the female and her less glossy appearance—this female may have been in her first summer dress. The nest had three eggs when first found, but two disappeared during the first week, due, no doubt, to the depredations of Black-headed Gulls. Both the male and female were shown carrying building material to the nest. The courtship and display of the male were then illustrated by slides showing him swimming

round the nest, slowly turning his head from side to side and bowing it up and down, while bringing forward the golden-yellow tippets so that they showed to best advantage before the female. A further scene was shown of the male displaying while on the nest. Mating in all the cases witnessed took place on the nest. Three days after the first courtship and display to be observed a second egg was laid in the nest, while four days later there were three fresh eggs as well as the original one.

The White-tailed Sea-Eagle (Haliæetus albicilla) in Iceland.

Mr. P. I. R. Maclaren showed some slides and made the following remarks :—

These photographs were taken by the members of a small expedition from Cambridge to N.W. Iceland in the summer of 1939. The object of the party, apart from photography, was to find out the number of surviving Eagles in the west and north-west, which is now, with one exception, the only part of Iceland which they inhabit. Thirty-nine Eagles (eleven being young ones) were actually seen, and a minimum of fourteen others reliably reported. Eleven nests (nine occupied) were found. This shows a considerable increase in known numbers during the last few years. In 1920 seven nests were reported, and in 1934 eight.

The nest at which the photographs were taken was found on July 3, and then held two young, roughly three weeks old. It would, of course, have been better to have started hide-work earlier, but that was not possible. The nest was two miles up a valley from the head of a fjord, and was on a grassy pinnacle in the steep hundred-foot pitch at the top of the valley-side, about eight hundred feet above the river. It was the only accessible nest-site found. On another pinnacle, about thirty-five feet away, a hide was erected ; this was of the usual sacking type, the front being camouflaged by a wall of stones and the rest with such vegetation as could be found.

Three weeks were spent on the job, two watches of about six or seven hours each being taken nearly every fine day.

The male was never seen to come to the nest, though he caught all the food and handed it to the female on their look-out perch, which gave a good view down the valley. Puffins, generally plucked and beheaded, Eiders, and Ptarmigan were among the birds eaten, while of fish the tough Lumpfish were the commonest.

The female came to the nest so quietly that generally the only warning of her approach was the increased liveliness of the young. However, two studies of her landing were obtained, as well as a good series of her feeding the young and flying off.

One of the chicks fast outgrew the other, which was smaller, and eventually died, partly through starvation and also, perhaps, through the direct attacks of its larger companion. Two photographs of excretion by the young were obtained. It could be seen how they walk backwards to the edge of the pinnacle and, with lifted hind-parts, throw a jet of liquid into space.

Notes on African Birds.

Mr. J. D. Macdonald sent the following two notes :—

(1) On *Eurocephalus rüppelli* Bonaparte.

In Orn. Monatsb. vol. xxi. pp. 58–59, 1913, Zedlitz recognized five races of white-rumped *Eurocephalus*. Of these Sclater and Mackworth-Praed (Ibis, 1918, pp. 640–641) could only, with difficulty, maintain three. The latter have generally been followed. An examination of these Shrikes, in the light of recent additional material (there are now about a hundred specimens in the British Museum), makes it clear that none of Zedlitz's races can be kept up.

The characters on which the races have been based are :— General colour of upper parts, particularly mantle ; colour of underparts, particularly flanks ; and size.

The colour of the upper parts is very markedly influenced by wearing and exposure. In a series collected by Butler at Mongalla in July–September the mantle is very pale brown, with the feather-tips almost white ; but these feathers are much less worn and darker brown in specimens collected by

Colonel Cave and myself in December and March east of Mongalla. These two series from approximately the same area mark the limit of variation within the species of the colour-tone of the upper parts. Specimens compared month by month throughout the range of the species are not separable geographically.

The extent and tone of the brown of the flanks which extends on to the chest varies irregularly throughout the species, and is too unstable a character on which to base races. It appears that juveniles have the greatest quantity of brown on the chest, and it may be that as birds mature it becomes less.

In the series examined no distinct geographical size-groups can be distinguished. I therefore propose to regard *Eurocephalus rüppelli* as a species not divisible into races.

(2) On the Races of *Turdoides plebeja* (Cretzschmar).

At least twelve races of this species have been described. Seven are recognized by Sclater in the 'Systema Avium Æthiopicarum,' 1930. Bannerman ('Birds of West Africa,' vol. iv. 1936, p. 91) reduces the number in West Africa to three, which, with an East African one, makes a present total of four. Having examined the species as a whole I find that there must be an adjustment of boundaries between the nominate race and *T. p. cinerea* Heuglin, and that *T. p. uamensis* Reichenow is synonymous with the latter.

The species is easily divided on the colour character of the throat and cheeks. These are either ashy or whitish. The former is a uniform group and constitutes the West African *T. p. platycircus* Swainson, which ranges from Senegal to western Nigeria. The latter may be divided into races on paler and darker body colour.

Bannerman recognizes the paler nominate race in northern Nigeria, northern Cameroon, Ubangi-Shari, Darfur, and Kordofan, and *T. p. uamensis*, a darker race of limited distribution, in eastern and middle Cameroon. Both he and Lynes (Ibis, 1925, p. 118) remarked that in *T. p. plebeja* darker and lighter specimens are found, though the latter's Darfur birds are

best matched with others in northern latitudes, which are generally paler.

This apparent inconsistency is put right when it is remembered that the East African *T. p. cinerea* is distinguished from the nominate race by its darker coloration, and that the southern Cameroon birds can be identified with the former. The pale northern race can only be distinguished in northern Nigeria, Darfur, and Kordofan.

There are normal signs that no sharp line can be drawn between races. Out of three birds from almost the same locality on the Bamingui River, Ubangi-Shari, two can be put in with the dark race. In northern Cameroon and north-east Nigeria characters are intermediate. Similarly, in north-west Nigeria it is sometimes difficult to distinguish the ashy-throated *T. p. platycircus*.

The three races of this species now recognized may be summarized as follows :—

(1) Turdoides plebeja plebeja (Cretzschmar).

Ixos plebejus Cretzschmar, in Rüppell's Atlas zu der Reise, Vög. 1826, p. 35, pl. 23 : Kordofan.

Characteristics :—Throat and cheeks whitish.

Distribution.—Lake Chad region, Darfur, Kordofan.

(2) Turdoides plebeja cinerea (Heuglin).

Crateropus cinereus Heuglin, J. f. O. 1862, p. 300 : Upper White Nile.

Crateropus uamensis Reichenow, J. f. O. 1921, p. 48 : Bosum, east Cameroon.

Characteristics.—Similar to *T. p. plebeja*, but general coloration darker.

Distribution.—Eastern Nigeria (except the Lake Chad area), Cameroon, Ubangi-Shari, southern Sudan, western Abyssinia, Uganda, western Kenya Colony.

(3) Turdoides plebeja platycircus (Swainson).

Crateropus platycircus Swainson, Bds. W. Afr. i. p. 274, 1837 : West Africa (probably Gambia).

Characteristics.—Throat and cheeks ashy.

Distribution.—Senegal to western Nigeria.

New Races of Rose Finch, Suthora, and Nuthatch from South-east Tibet.

Mr. N. B. Kinnear sent the following corrections :—

In my description of new races of Rose Finch, Suthora, and Nuthatch collected by Messrs. Ludlow and Sherriff in South-east Tibet, on pp. 56–57 of the February 'Bulletin' two typographical errors have occurred, namely :—

At the foot of p. 56 "Pachakshira" should read "Pachakshiri," and on p. 57 "*Sitta europæa konyboensis*" should read "*Sitta europæa kongboensis*."

13 APR 1940
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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXXI.

The four-hundred-and-twenty-sixth Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, April 10, 1940.

Chairman : Dr. A. Landsborough Thomson.

Members present :—Miss J. M. Ferrier ; Miss E. M. Godman ; Capt. C. H. B. Grant (*Editor*) ; B. Guy Harrison ; Dr. E. Hopkinson ; N. B. Kinnear (*Acting Hon. Secretary*) ; Miss E. P. Leach ; Miss C. Longfield ; Dr. G. Carmichael Low ; C. W. Mackworth-Praed ; Dr. P. Manson-Bahr ; J. G. Mavrogordato ; J. H. Newman ; D. Seth-Smith ; W. L. Sclater ; B. W. Tucker ; H. F. Witherby ; C. de Worms.

Guests :—Dr. N. H. Fairley ; R. G. Ferrier ; Miss C. E. Godman ; Miss E. Hall ; G. Maxwell.

Members, 19 ; Guests, 5. Total, 24.

A Visit to the Magdalen Islands.

Mr. B. Guy Harrison made the following remarks :—

On my journey from Quebec to the Magdalen Islands a stay of a week was made at the small township known as Trois Pistoles, situated on the south bank of the St. Lawrence, about

150 miles east of Quebec. This enabled me, through the kindness of Dr. Dery, of the Provancher Society of Natural History of Canada, to visit a small islet called Basque Island, a well-known breeding place of the southern form of the American Eider (*Somateria mollissima dresseri*). As Basque Island is farther south than London by some 250 miles, it is probably the most southerly breeding locality in the world for Eider Duck. These birds have been persecuted to such an extent that they were fast becoming extinct, but thanks to the good offices of this Society, which has arranged for their protection on this, and the two adjoining islands known as the Razades, large quantities of birds now breed there annually, and Canadian naturalists are greatly indebted to this organization for the admirable work it has done on these islands in protecting these and other breeding birds.

Basque Island is about two miles long by three-quarters of a mile wide, and much of it is covered with pines and larches.

The Magdalen Islands, which were reached on June 7, lie half-way between New Brunswick and Newfoundland, at a distance of about 100 miles from each coast, Prince Edward Island and Cape Breton Island being somewhat nearer.

The main island of the Magdalens is shaped like a thin and elongated letter " C," the upper and lower points of the letter being almost in contact, and thus enclosing an inland lagoon or waterway along which some of the traffic of the island is conveyed. The southern part of the island is mainly inhabited by islanders of French extraction, whilst those in the northern portion are principally Scottish.

The islands are icebound from November until May, and until a few years ago they were completely cut off from all communication from the mainland between those months. Of recent years, however, aeroplanes have succeeded in maintaining contact during the winter.

The northern part of the island, which appears to be the best for bird life, can be divided into sand-dunes and extensive foreshores, into considerable areas of marshland, and more limited hillsides covered with pines and larches.

The nidification of the following birds was observed, the locality being the Magdalen Islands unless otherwise stated.

Raven (*Corvus corax principalis*).

One nest was seen situated on the cliffs. It appeared to contain young on June 10.

Starling (*Sturnus v. vulgaris*).

One nest with eggs was found in a cavity in a dead tree. This bird, which was introduced in New York City in 1890, appears to be quite a newcomer to the Magdalens. A bird reported to be nesting in the previous year in the church tower may have been one of this species.

Rusty Grackle (*Euphagus carolinus*)

and

Bronzed Grackle (*Quiscalus quiscula æneus*).

Both birds fairly common, and found nesting in dwarf trees and shrubs on the edges of marshland.

Ipswich Sparrow (*Passerculus princeps*).

The only known breeding place of this species is Sable Island, 250 miles to the south, but a careful watch was made for this bird without result.

Savannah Sparrow (*Passerculus sandwichensis savanna*).

Common, and found nesting on rough ground bordering the marshland.

Fox-Sparrow (*Passerella i. iliaca*).

Two or three nests of this species were found, but no eggs had been laid by June 21.

Slate-coloured Junco (*Junco h. hyemalis*).

A nest, carefully concealed under brushwood, containing three fresh eggs was found on the hillside on June 19.

Tree-Creeper (*Certhia familiaris americana*).

A nest was found on Basque Island behind the bark of a dead pine-stump about ten feet from the ground. This nest was similar to that of our own Tree-Creeper, and was composed of a little fibre and wool on a foundation of twigs. It is rather curious that a bird so closely allied as the European and American forms of the Tree-Creeper should be found over

almost the whole of Europe and North America, more especially when its relative, *Certhia brachydactyla*, has not succeeded in reaching our shores from the opposite side of the Channel.

Yellow Warbler (*Dendroica æ. æstiva*).

This species had completed nests in shrubs on the marshland on June 20.

American Robin (*Turdus m. migratorius*).

Fairly common on all parts of the island visited, nesting in the larches.

Yellow-shafted or Southern Flicker (*Colaptes auratus*).

Common. Very many nesting holes were observed in dead tree-stumps.

Marsh-Hawk (*Circus cyaneus hudsonius*).

The one nest found was in a typical Hen-Harrier's site on dry ground bordering the marshland.

Osprey (*Pandion haliætus carolinensis*).

A few nests on Basque Island, situated in pine-trees at a height of 50 or 60 feet.

Great Blue Heron (*Ardea h. herodias*).

A small colony, also at some height in the pines on Basque Island, and in proximity to the Ospreys. All nests appeared to contain young during the first week in June. An Osprey was observed attacking a Heron, which had adopted the protective attitude, with body and beak erect, and was perched on the topmost bough of a fir-tree at a height of some 70 feet. This attitude, so well known in the Bittern, has been observed in the Purple Heron, but not apparently in the Common Heron, and it would be interesting to know whether the original instinct which prompted this posture was a desire to resist attack from above or merely adopted for purposes of concealment.

Night-Heron (*Nycticorax nycticorax hoactli*).

A few nests in the Great Blue Heron colony on Basque Island, but rather lower in the trees.

American Bittern (*Botaurus lentiginosus*).

Two nests were found in the reeds containing four and five eggs respectively.

Blue-winged Teal (*Anas discors*).

One nest containing eleven fresh eggs was found on the marshes on June 18.

Black Duck (*Anas rubripes*).

Found nesting fairly commonly on Basque Island.

Southern Eider (*Somateria mollissima dresseri*).

Common over the whole of Basque Island and the Razades, frequently nesting in the woodlands on the former island almost out of sight of the water.

Semi-palmated Ringed Plover (*Charadrius semipalmatus*) and

Piping Plover (*Charadrius melodus*).

These little birds are very plentiful, and nest close to the sand-dunes and on the foreshore, the Semi-palmated Plover harmonizing with the wet sand and the Piping Plover with the dry sand.

American Stint (*Calidris minutilla*).

This charming little bird appears to be as tame as Temminck's Stint, and behaves in the same manner at the nest. It breeds on the dryer ground bordering the marshland.

When driving along a country road a bird was observed to run in front of the horse, and on stopping the cart for less than a minute the bird was seen to walk to its nest within ten yards of the road.

Spotted Sandpiper (*Tringa macularia*).

Nesting on the borders of the sand-dunes and marshland. One nest which was found was in the form of a very small but deep scrape, the eggs being supported in an almost upright position, making them practically invisible from a distance of four or five yeards.

Wilson's Snipe (*Capella gallinago delicata*).

A large number of nests were found in typical Snipe situations in the marshland.

Herring Gull (*Larus argentatus smithsonianus*)
and
Ring-billed Gull (*Larus delawarensis*).

These two Gulls are stated to breed in trees on a small adjoining island, but were not visited.

Sora Rail (*Porzana carolina*).

Common in the marshes, and all nests were found in very wet situations in the reeds.

A Hybrid Gadwall and Wigeon.

Dr. G. Carmichael Low showed a hybrid Gadwall ♂× Wigeon ♀, which had been sent to Mr. Kinnear by Mr. S. W. P. Freme of Wepre, Connahs Quay, near Chester. The bird was bred and died in captivity, and was about ten years old. According to the sender, the cross is a common one. The bird (a male) exhibited some of the typical characteristics of both parents—the bill and vinaceous-pink upper breast of the Wigeon, the white speculum, head, and some of the other feathers of the Gadwall.

Recently Miss Leach and Dr. Carmichael Low had seen a somewhat similar looking bird on the Lake in Regent's Park, mostly Gadwall, but with the head different. Hybridism amongst Ducks in captivity or semi-captivity is common, and all sorts of combinations can be bred (Bonhote, Wormwald, etc.); Mallard–Gadwall crosses, mostly showing Mallard characteristics, are met with in St. James's Park Lake and the Serpentine from time to time.

In a natural state, however, hybridism would seem to be rare, or at any rate much less common than in the unnatural state of captivity.

Hair-ball in the Stomach of a Peregrine.

Dr. P. H. Manson-Bahr and Mr. J. G. Mavrogordato exhibited the stomach-contents of a trained Peregrine tiercel, and made the following remarks :—

This exhibit consists of a " hair-ball," composed of rabbit fur and four shot pellets, which was removed from the stomach of a Peregrine by means of a surgical operation. The formation of the hair-ball was probably an indirect consequence of the

war, which had necessitated the entrusting of the Hawk's food-supply to unskilled hands, and had led, particularly after the introduction of meat-rationing, to an excess of shot rabbit on the menu. Rabbit is not a natural food for Peregrines, and has never been considered suitable as a staple diet.

Normally, of course, Hawks have the power of ejecting fur or feathers from the stomach within twenty-four hours of their being swallowed, ejection taking place through the mouth, *via* the crop, in the form of a pellet or casting. In the present case the casting mechanism had evidently for some reason been put out of gear, and the fur started to accumulate in snowball fashion in the stomach, instead of being daily ejected. At a guess the ball represents some twenty normal castings, which would give a minimum period of accumulation of three weeks. The first outward symptom was the Hawk's sudden and almost complete refusal of food, which persisted for some eight days, at the end of which time he was becoming emaciated and weak on his legs, and obviously in need of drastic remedial treatment if he was to survive.

A somewhat bold diagnosis of the trouble was made, and the rather desperate remedy of opening the stomach, an operation prescribed for such an emergency, and explained in some detail, by a Persian falconer nearly a century ago, was decided upon. The Hawk was anæsthetised with ether, the stomach opened, the hair-ball, which completely filled and distended it, removed, and everything stitched back into place with sewing silk. Notwithstanding the over-enthusiasm of the anæsthetist, and a progressive throwing to the winds of the initial attempts to ensure sterile conditions, the Hawk survived, and appears to be making a complete recovery.

A new Race of the African Mountain Wagtail.

Dr. C. B. Ticehurst forwarded the following description :—

Motacilla clara torrentium, subsp. nov.

Description.—Similar to *Motacilla clara clara*, but smaller.

Distribution.—E. Cape Province, Natal, Portuguese East Africa, Nyasaland, Tanganyika, Uganda, Kenya, Belgian Congo, Sierra Leone, Cameroons, Angola.

Type.—In the British Museum, male adult, Ngoye Forest, Zululand, October 8, 1904 ; collected by Capt. C. H. B. Grant. Brit. Mus. Reg. no. 1905.12.29.1542.

Measurements.—Wing, 17 males, 74·5–82·5, 83, 84 ; 13 females, 74·5–81, 83·5 ; 8 unsexed, 76–81 mm., as against *M. c. clara* from Abyssinia, 4 males, 86·5–90·5 ; 5 females, 85·5–88·5 mm.

Notes on African Birds.

Mr. J. D. Macdonald sent the following two notes :—

(1) The Correct Status of *Chloropeta similis* Richmond.

Recently *Chloropeta similis* Richmond has been regarded as a high altitude race of *C. natalensis* Smith ; but evidence from several independent sources make it necessary to revise this decision.

C. similis is found in most East African mountains over 6–7000 feet. Groups isolated on widely separated mountains such as Kilimanjaro, Ruwenzori, and the Imatong Mountains in the southern Sudan are apparently identical. It is replaced at lower elevations by *C. natalensis*, which lives in close association over a wide area, and which shows gradual changes in certain characters towards the limits of its distribution in central Abyssinia, Cameroons, Angola, and south-east Africa. But there are no gradual changes between the characters of the high and low altitude forms.

When identifying collections made in the southern Sudan I found that the *Chloropeta* from the foothills of the Imatong Mountains, by the brown-crested character of its head, appeared to have a closer affinity to those from South Africa or Cameroons than to others found only a few miles away, but several thousand feet higher up in the same mountains, and which had no indication of a brown crest.

In the Rev. Zool. Bot. Afr. vol. xxxiii. fasc. i. p. 8, 1939, Moreau writes :—" It is difficult to remain convinced that the relationship between *massaica* [*C. natalensis massaica*] and *similis* is correctly regarded as subspecific ; for though the two forms repeatedly appear in proximity, it does not seem that specimens with intermediate head-colour have been

recorded." He adds in a note that van Someren agrees with this statement.

The conclusive evidence, however, comes from Colonel F. O. Cave, who first discovered this *Chloropeta* in the high forests of the Imatong Mountains. He drew my attention to the fact that all the birds in this locality had twelve tail-feathers, whereas *C. natalensis* has ten. Needless to say, the birds from the other mountains agreed with his finding.

C. similis and *C. natalensis* must therefore be regarded as specifically distinct.

(2) The Status of *Dryoscopus gambensis nyansæ* Neumann.

In adult *Dryoscopus gambensis* (Lichtenstein) the sexes are differently coloured. The characteristics of the males are much less variable than those of the females, and consequently it is entirely on the latter that races have been based. An examination of the characters distinguishing *D. g. nyansæ* Neumann from *D. g. malzacii* (Heuglin) reveals that they are untenable.

The females of this species can be divided clearly into those with grey heads, contrasting with the mantle, and those with brown heads, more or less uniform with the mantle. The former constitutes the West African *D. g. gambensis* and a race of limited distribution in the region of the Congo mouth, *D. g. congicus* Sharpe, in which the head is darker grey and the mantle a warmer brown. In the East African brown-headed section Abyssinian birds are readily separated by the sooty-brown, as distinct from dark mouse-brown, colour of the upper parts. This distinction is particularly noticeable on the upper side of the central pair of tail-feathers. The Abyssinian race, *D. g. erythreæ*, was named by Neumann, J. f. O. 1899, p. 412. At the same time he distinguished Kavirondo birds as *D. g. nyansæ*, stating that they differed from *D. g. malzacii* (Heuglin), White Nile, in being paler brown above and " only faintly washed with yellowish " below.

It does not appear to be generally known that in juveniles, both males and females, the colour of the underside is a tawny-buff, and that this colour fades to buff, and sometimes even almost to white, in the adult females. I suggest, therefore,

that the colour of the underparts is mainly an indication of age, and must be regarded in this instance as an unreliable racial character. It is perhaps interesting to add here that in juvenile males the underparts are rather less richly coloured than in the females, that the characteristic male colour appears first above—so that specimens apparently male above and female below may be found—and that the tawny-buff colour of both juvenile sexes is found on the outer margin of most wing-feathers.

The fresh plumage of the head and mantle is a dark mouse-brown, and in this condition birds from the Sudan, Uganda and Kenya Colony are indistinguishable. The colour becomes paler with wear and exposure, and it seems true that the latter factor has a greater effect in some localities than others. For example, four females were obtained by Rear-Admiral Lynes in Darfur ; they are all in a worn condition and very pale, but one is in moult, and the fresh plumage showing through the old faded coat is quite definitely dark. It is important, therefore, to compare only birds in fresh plumage.

I therefore propose that *D. g. nyansæ* Neumann be regarded as a synonym of *D. g. malzacii* (Heuglin).

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following two notes :—

(1) On the Races of *Melænornis edolioides* (Swainson) occurring in Eastern Africa.

Sclater, Syst. Av. Æthiop. ii. 1930, p. 409, recognizes three races in Eastern Africa, and van Someren, Nov. Zool. xxix. 1922, p. 93, recognizes four. Van Someren compares his new race with *M. e. schistacea*, and not with *M. e. lugubris*.

Our examination of the series in the British Museum collection shows that the characters given by van Someren for *Melænornis lugubris ugandæ* are by no means constant, and must be considered as individual variations, as they are to be found in northern and western Abyssinian specimens as well

as others from the Sudan and Uganda. As regards colour there is no real difference between West African and East African birds, but West African birds are rather longer in the tail (as remarked by van Someren, Nov. Zool. xxix. 1922, p. 93), and this character is sufficient to separate them.

The three races we are able to recognize are :—

Melænornis edolioides edolioides (Swainson).

Melasoma edolioides Swainson, Bds. W. Afr. 1837, p. 257, pl. 29 : Senegal. Tail in males (fifteen) 100–111 mm.

Distribution.—Senegal and Gambia to the Cameroons.

Melænornis edolioides lugubris (v. Müll.).

Muscicapa lugubris J. W. von Müller, Naumannia, 1851, pt. iv. p. 28 : Kolla, north of Gondar, northern Abyssinia ; of which *Melænornis lugubris ugandæ* van Someren, Bull. B. O. C. xli. p. 104, 1921 : Sezibwa, southern Uganda, is a synonym.

Tail in males (twenty-four) 85–99 mm.

Distribution.—Northern and western Abyssinia (as far east as the Didessa and Omo River valleys) to the Sudan, Uganda, northern Tanganyika Territory at Mwanza, and French Equatorial Africa at Bamingui and Shari Rivers.

Melænornis edolioides schistacea Sharpe.

Melænornis schistacea Sharpe, P. Z. S. 1895, p. 481 : Darro Mts., Arussi, south central Abyssinia.

General colour greyer in tone, less blackish. Tail in males (eight) 96–103 mm.

Distribution.—Abyssinia, east of the Omo and Didessa River valleys and northern Kenya Colony at Moyale.

(2) On *Alseonax flavipes*.

In the Bull. B. O. C. lx. 1940, p. 65, we proposed *Alseonax batesi* for this preoccupied name, but, unfortunately, overlooked the fact that Mr. Bates had himself proposed *Alseonax flavitarsus*, Bull. B. O. C. lvii. 1937, p. 100.

Van Someren named a yellow-footed race *Pedilorhynchus epulatus seth-smithi*, Nov. Zool. xxix. 1922, p. 96 ; Budongo

Forest, Uganda, and as West African and Uganda birds do not differ, this subspecific name must be used for this species. Therefore both *Alseonax flavitarsus* Bates and *Alseonax batesi* Grant & Praed must become synonyms of *Alseonax sethsmithi* van Someren, and *Alseonax flavipes* drops out of African ornithology.

8 MAY 1940
PURCHASED

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXXII.

The four-hundred-and-twenty-seventh Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, May 8, 1940.

Chairman : Dr. A. Landsborough Thomson.

Members present :—Miss C. M. Acland ; F. J. F. Barrington ; J. M. Fisher ; Miss E. M. Godman ; Capt. C. H. B. Grant (*Editor*) ; Dr. E. Hopkinson ; Miss E. P. Leach ; Dr. G. Carmichael Low ; Dr. P. R. Lowe ; C. W. Mackworth-Praed ; Lt.-Col. H. A. F. Magrath ; Dr. P. H. Manson-Bahr ; Col. R. Meinertzhagen ; T. H. Newman ; Miss G. M. Rhodes ; H. F. Witherby ; C. de Worms.

Guests :—Miss Ann Meinertzhagen ; Professor W. W. C. Topley ; H. G. Vevers ; Mrs. H. F. Witherby.

Members, 18 ; Guests, 4. Total, 22.

The Status of the Fulmar in the British Isles.

Mr. James Fisher made the following remarks :—

In the last hundred years the status and distribution of the Fulmar (*Fulmarus glacialis glacialis* L.) has undergone changes of a very remarkable kind. In Britain these changes are similar to those which the human population has suffered since the Industrial Revolution. Since 1878 the number of Fulmars breeding in Britain has roughly trebled, and the number of colonies where the bird is known to breed has increased from one (St. Kilda) to 197. There were also, in 1939, sixty other colonies where the birds were present, but had not yet been proved to breed.

The details of this remarkable spread cannot be given here—they are being published very fully in the fourth volume of the ' Handbook of British Birds '—but it should be mentioned that on the east coast they have reached Flamborough Head, in S.E. Yorks. They arrived here and first bred in 1922, and have probably got no further south on this side owing to the absence of suitable nesting-sites. On the west they have colonized nearly all the oceanic headlands of Ireland, and are now showing interest in, though not breeding on, the cliffs of the Scillies, Cornwall, Lundy Island, Pembrokeshire, Holyhead, Great Orme's Head, and St. Bee's Head, Cumberland.

The spread has always been first towards the more oceanic headlands, followed by the colonization of the intermediate cliffs and a gradual pushing up the firths and lochs. Headlands and islands still remain the Fulmar's chief preference ; though there are many breeding in the west of Scotland they only do so on one point on the west mainland south of Sutherlandshire—the Mull of Galloway in Wigtownshire.

Our present knowledge of the Fulmar's distribution, which is perhaps more complete than that of any other sea-birds, is mainly due to the British Trust for Ornithology's Inquiry of 1934, which was originally conducted by Mr. George Waterston, and continued to 1939 by the author. The collected informa tion, not yet published, will be the first detailed assessment since Harvie-Brown's paper of 1912 (Scot. Nat. 1912, pp. 97 102, 121–32).

A satisfactory explanation of the spread has yet to be put forward. The " St. Kilda theory," first put forward by Ritchie (Scot. Nat. 1930, pp. 69–74), suggests that the spread from St. Kilda (if indeed it was from St. Kilda) started in 1878—when Foula, in Shetland, was colonized—since, at about that time, the regular steamship service to the island meant that the inhabitants began to eat less birds and more mainland food.

As a matter of fact, the arrival of food-supplies from the mainland in regular amounts seems to have made no difference whatever to the wildfowling habits of the inhabitants. Up to 1910 at least, about 125 Fulmars were taken every year to each human inhabitant—and the human population was actually going *up* slowly between 1874 and 1889, though at

no time between 1874 and the nineteen-twenties did it fall below seventy, or above eighty.

It is clear, then, that we must look elsewhere for an explanation. The first important fact that we must consider is that radical changes in population in Iceland and the Faeroes date from about 1816. Thus in the Mýrdalsfjall district of Iceland the birds arrived at Höfðubrekkuháls in about 1820, and in Hjörleifshöfði in 1836. By 1936 they were in all Mýrdalsfjall, and 20–25,000 young birds were being taken every year.

In the Faeroes the Fulmar never bred until between 1816 and 1839, when it colonized Suderø. In Britain the St. Kilda population is about 21,000 pairs, and the total about 58,000; so it is all the more remarkable that in recent years in the Faeroes 100,000 young were being taken annually. However, since the tracing of an outbreak of human psittacosis to the handling and eating of young Fulmars all this has been stopped.

It seems, therefore, that there must be some long-term biological trend behind this spread. Perhaps this bird has natural fluctuations of a very long period, corresponding with its slowness of breeding. Perhaps there have been increases in the distribution of its food—though the Fulmar would appear to be not dependent on the proximity of large amounts of food near its breeding-place, since it is a very generalized plankton feeder, and as it may not relieve its mate for four days, would seem to have plenty of oceanic space to forage in. Perhaps its psychological altitude towards its nest-site, and the suitability thereof, is changing; certainly it may now compete with and drive out rabbits, Cormorants, Shags, Gannets, Herring-Gulls, Kittiwakes, Arctic Terns, Razorbills, Guillemots, and even Puffins. No animal but the rat can face it in open combat.

Unless unexpected conditions arise, such as an epidemic, evidence points to the Fulmar continuing to spread further afield. The evacuation of the people from St. Kilda and the prohibition of the use of this bird as a food-supply in the Faeroes must have its effect on their increase. In a decade or two it may well be breeding in the Isle of Wight and France, unless, indeed, its heat-toleration does not permit it to cross the 60 deg. F. isotherm for any great distance. It will be interesting to see what happens.

A new race of Bush-Chat from India.

Mr. Hugh Whistler sent the following description :—

Saxicola caprata nilgiriensis, subsp. nov.

Differs from *S. c. atrata* (Ceylon) in its smaller bill, which varies from 15–18 mm. in length from skull.

Distribution.—High hills of S.W. India (Nilgiris, Palnis, and Travancore range).

Type in the British Museum. ♂ collected at Ootacamund, Nilgiris, by W. Davison on January 11, 1881. Bill from skull 17, wing 78, tail 56 mm.

Type-locality.—Ootacamund.

Note.—This form has hitherto been included under *S. c. atrata* of Ceylon, a bird with a still larger and coarser bill up to 20 mm. It is, however, really the intermediate between *S. c. atrata* and *S. c. caprata* (Philippines, Burma, Indian Peninsula) which has a fine delicate bill 13·5 to 15 mm. in length. I think the intermediate merits recognition, as we have not here an ordinary case of intergrading in size from south to north of a generally distributed species, e. g., *Corvus macrorhynchus*. In Ceylon *S. c. atrata* is confined to a limited area of the central hill mass above 3000 feet. It is not found in the rest of the hills nor in the plains, so its insularity is unusually emphasized. *S. c. nilgiriensis* is not found in the plains of South India, but is confined to the hill ranges of the south-west corner which are remarkable for other peculiar forms, subspecific and specific. *S. c. caprata*, on the other hand, is found in the eastern hill ranges and in the plains of South India. All are resident forms and have no plumage differences. The fourth Indian form (*S. c. bicolor*, N. India and Turkestan) differs in plumage, and is largely migratory.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following note :—

On *Fringilla angolensis*.

With reference to our note in the Bull. B. O. C. lx. 1940, p. 53, we desire to invite attention to the fact that Grote, Anz. Orn. Ges. Bayern, 11, 1936, p. 373, has already published this change of name.

3 JUN 1940
PURCHASED

BULLETIN
OF THE
BRITISH ORNITHOLOGISTS' CLUB.

No. CCCCXXXIII.

The four-hundred-and-twenty-eighth Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W. 7, on Wednesday, June 12, 1940.

Chairman : Dr. A. Landsborough Thomson.

Members present :—J. Fisher ; Capt. C. H. B. Grant (*Editor*) ; Dr. J. M. Harrison ; Dr. E. Hopkinson ; Miss E. P. Leach ; Miss C. Longfield ; Dr. G. Carmichael Low ; C. W. Mackworth-Praed ; Col. H. A. F. Magrath ; Dr. P. Manson-Bahr ; T. H. Newman ; H. Pease ; W. L. Sclater ; D. Seth-Smith ; B. W. Tucker ; H. F. Witherby.

Guests :—Miss E. A. U. Nicol ; Mrs. Manson-Bahr ; Mrs. W. L. Sclater ; Mrs. A. Landsborough Thomson.

Members, 17 ; Guests, 4. Total, 21.

A new Genus of African Swamp Warbler.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed exhibited the type-species of the following proposed new genus :—

CALAMONASTIDES, gen. nov.

Description.—General characters and feet similar to the genus *Calamocætor* W. L. Sclater ; but general colour olive-brown and yellow, and bill rather broader.

Type of Genus.—Chloropeta gracilirostris O. Grant, Bull. B. O. C. xix. 1906, p. 133.

Measurements.—Tarsus 25 ; middle toe with claw 21 ; hind toe with claw 19 ; breadth of bill at base 5 mm. Number of tail-feathers apparently ten.

Remarks.—A comparison of the type of *Chloropeta gracilirostris* with members of the genus *Chloropeta* show that the feet are very large and the toes and claws long ; and available field-notes show that it is a swamp dweller and not a forest dweller as are *Chloropeta natalensis* and races and *Chloropeta similis*. The large feet, toes and claws agree well with those of the genus *Calamocætor*, which is also a swamp dweller; but as the general colour is not in agreement with the known species of *Calamocætor* and the bill is rather broader we are of opinion that it is best placed in a genus of its own, which will follow the genus *Calamocætor*. Gyldenstolpe (K. Sven. Vet.-Akad. Handl. ser. iii. i. 1924, p. 207) has cast doubt on *C. gracilirostris* belonging to the genus *Chloropeta*. Dr. James P. Chapin has very kindly sent us the following measurements of three specimens in the American Museum of Natural History from south-western Uganda and southern end of Lake Edward :—

Two males : tarsus 23–25 mm. ; middle toe with claw 19·5–20 mm. ; hind toe with claw 17–18 mm.

One female : tarsus 24 mm. ; middle toe with claw 20 mm. ; hind toe with claw 17 mm.

Although the tails of these specimens are not complete Dr. Chapin states that ten would seem to be the full complement of feathers.

New Races of Flycatchers from Eastern Africa.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed also exhibited and described the following three new races :—

Batis orientalis lynesi, subsp. nov.

Description.—Differs from *Batis orientalis chadensis* Alexander, Bull. B. O. C. xxi. 1908, p. 105 : west of Lake Chad, in the female having a bright tawny, not chestnut, chest-band.

Distribution.—Red Sea Province of the Sudan.

Type.—In the British Museum. Adult female, Sinkat, Red Sea Province, March 20, 1914, collected by Abel Chapman and Capt. H. Lynes, British Museum Reg. no. 1919.12.17.211.

Measurements of Type.—Wing 58 mm.

Remarks.—Six specimens examined.

Named in honour of Rear-Admiral Lynes.

Tchitrea perspicillata ruwenzoriæ, subsp. nov.

Description.—Differs from *Tchitrea perspicillata perspicillata* (Swainson), Bds. W. Afr. ii. 1837, p. 59 : Duivenhoek River, Swellendam, Cape Province, and *Tchitrea perspicillata suahelica* (Reichenow), in Werther, Mittl. Hochl. D. Ostafr. 1898, p. 275 : Kiboscho, Kilimanjaro, north-eastern Tanganyika Territory, in having the top of the head glossy greenish blue-black and the chin to throat grey with only a slight gloss.

Distribution.—Western and southern Uganda from Ruwenzori and Entebbe to southern end of Lake Victoria and Kahé and Moshi in north-eastern Tanganyika Territory.

Type.—In the British Museum. Adult male. South-west Ruwenzori, 3400 feet, June 23, 1906, collected by D. Carruthers. British Museum Reg. no. 1906.12.23.1554.

Measurements of Type.—Wing 81 mm.

Remarks.—Sixteen specimens examined.

Tchitrea plumbeiceps violacea, subsp. nov.

Description.—Differs from *Tchitrea plumbeiceps plumbeiceps* (Reichenow), in Werth. Mittl. Hochl. D. Ostafr. 1898, p. 275 : Milange, Angola, in having the top of the head distinctly glossed with a brighter violet wash ; central tail-feathers in fully adult male very long.

Distribution.—Bechuanaland, Northern and Southern Rhodesia, Portuguese East Africa, south-eastern Belgian Congo to Nyasaland, Tanganyika Territory, coastal area of Kenya Colony as far north as the Tana River, west to the Uelle River and Cameroon at the River Ja. Pemba and Mafia Islands.

Type.—In the British Museum. Adult male. Fort Hill, North Nyasa District, Nyasaland, October 29, 1937, collected by C. W. Benson. British Museum Reg. no. 1937.12.19.1.

Measurements of Type.—Wing 84 mm.

Remarks.—Sixty-five specimens examined.

A new Green Pigeon from Pemba Island.

Mr. R. H. W. Pakenham sent for exhibition the following new race :—

Treron pembaensis, sp. nov.

Description.—Head and neck, chest and belly, tail and underside of wings grey with an olivaceous wash ; mantle, rump, wing-coverts and innermost secondaries green ; dark vinous patch on wing shoulder ; flight-feathers black ; edges of greater wing-coverts and secondaries, lower belly and thighs lemon-yellow ; under tail-coverts dark chestnut, grey and yellow.

Distribution.—Pemba Island, East Africa.

Type.—In the British Museum. Adult male. Pemba Island, at sea-level. Collected by Mr. R. H. W. Pakenham on January 12, 1940. Collector's no. 297. Brit. Mus. Reg. no. 1940.4.12.1.

Measurements.—The type-specimen measures : wing 162, tail 86, tarsus 24, bill (from base of skull) 24 mm. Another male specimen in the British Museum (Brit. Mus. Reg. no. 1940.4.12.2), taken by Mr. Pakenham on January 14, 1940, measures : wing 169, tail 89, tarsus 26, bill (from base of skull) 24 mm.

Soft parts.—Bill coral-red at the base of both mandibles, pale greyish-white at the tip ; legs and feet yellow to orange-yellow, nails black ; iris blue with purple outer rim.

Remarks.—The breeding period appears to extend at least from December to February. On January 12 two adults were watched feeding a fledged juvenile which had left the nest and was strong on the wing : the same day and two days later males were taken in breeding condition. A nest was being built on January 21, and in another a parent was incubating two eggs from February 10 to 22 (when they were destroyed). Thereafter the birds disappeared from the locality.

The above two nests were built in the topmost branches of a *Mellingtonia* and a *Cassia javanica* tree respectively, both

within 15–20 yards of a two-storeyed residence. One bird in search of nest material was watched breaking off dry twigs with pods attached in a *Cassia siamea* tree close to my house, but it discarded one after another. The nest of which I obtained the best view was a shallow, unsymmetrical, untidy, and flimsy-looking structure of small twigs (with leaves attached) about 9–10 inches across, but it managed to withstand a great deal of high wind, which finally blew both eggs out of the nest.

The young fruit of the betel palm (*Areca catechu*) is a favourite food of this pigeon.

The call of the Pemba bird may be rendered as " kiú, tiú, kiuriu, kiwríkek-wríkek " (followed by a soft " krrrr, rrrr, rrrr "). The introductory " kiú, tiú, kiuriu " is also uttered softly, but not so quietly as the terminal purr. This call appears to differ substantially from those recorded by Moreau and by Vincent for *Vinago w. wakefieldi* and *V. delalandii orientalis* of Amani and Portuguese East Africa respectively (Ibis, 1932, pp. 509–510 ; 1934, pp. 526–527). I have seldom, if ever, heard the call except in the breeding season, when it was chiefly uttered in the early part of the morning and late afternoon, though it might also be heard at other times of day.

These birds often like to perch high up in trees, sometimes right on the summit of kapok- and mango-trees : when settled on such a perch they will sit for a long period quite motionless, diving direct from it when they fly. In the breeding season at least they showed remarkable tolerance of the proximity of human beings. At this season in 1939–40 they appeared suddenly in some numbers in the vicinity of the " boma " and township of Wete, Pemba, and made their presence evident by calling frequently, but they disappeared as suddenly after breeding. I have encountered one or two birds in the Ngezi Forest and near Fufuni in south Pemba, but they are ordinarily seldom seen or heard. Doubtless when not calling their habit of sitting motionless in a tall or leafy tree makes them very inconspicuous.

New Races of a Francolin and a Lark from the Southern Sudan.

Col. F. O. Cave sent for exhibition the following two new races :—

Francolinus africanus stantoni, subsp. nov.

Description.—Below, ground-colour of chest rather less creamy, but otherwise exactly similar to *F. a. archeri* Sclater, Mt. Daro, east of Harar, Abyssinia, and consequently much less barred on chest and abdomen, and lacking grey tips on chest-feathers of *F. a. friedmanni* Grant & Praed, Bodessa, south-west Abyssinia. Above, much greyer than *F. a. archeri*, and lacking the heavy dark markings. Quite different from *F. a. ellenbecki* Erlanger, south Abyssinia (on the Abera-Ginir Road), which is large-billed and heavily marked below.

Distribution.—Region of Atoporopos Hills.

Type.—In the British Museum. Adult male from Atoporopos Hills, southern Sudan, east of Kapoeta, at approx. 4° 55′ N. Lat., 34° E. Long. : collected on March 17, 1940, at 2500 feet. Brit. Mus. Reg. no. 1940.4.6.1.

Measurements of Type.—Wing 158, culmen from base 23 (tip slightly broken), tail 75, tarsus 39 mm.

Other characters of Type.—Bill nearly black, but dull yellow at gape ; legs and feet dull yellowish-brown ; iris brown.

Remarks.—This race is represented by the type only, which has been compared with the type of *F. a. archeri*, of *F. a. friedmanni*, and *F. a. ellenbecki*. In the northern limits of the distribution of this species there is a remarkable number of local variation.

This race is named in honour of Captain Stanton, of the Sudan Defence Force, who shot the specimen for me.

Mirafra hypermetra kathangorensis, subsp. nov.

Description.—Under wing-coverts and base of flight-feathers much paler than in the other races. Colour of upper parts closely resembling *M. h. gallarum*, but rather darker, less grey ; feathers of mantle and inner secondaries with darker centres, not so warm as in *M. h. hypermetra*.

Distribution.—Kathangor area.

Type.—In the British Museum. Adult male from Kathangor, Eastern District, Equatoria, Sudan, approx. 5° 45′ N. Lat., 33° 50′ E. Long. : collected on June 13, 1939, on thorn-bush plain at 1200 feet. Brit. Mus. Reg. no. 1939.8.16.4.

Measurements of Type.—Wing 103, culmen from base 22, tail 79 (rather worn), tarsus 33 mm.

Other characters of Type.—Bill dark brown above, pale horn below ; legs brown ; iris bright brown.

Remarks.—This race is represented by the type only. The species has a limited and rather localized distribution in East Africa ; *M. h. hypermetra* in central Kenya and northern Tanganyika Territory ; *M. h. gallarum* in central Abyssinia ; and *M. h. kidepoensis* in the southern Sudan and northern Uganda.

Kathangor is a small group of barren hills lying north-east of the mountains of the southern Sudan, and halfway to the Abyssinian border.

A new Race of Rock-Thrush from the Malay States.

Mr. F. N. Chasen sent the following description of a new Rock-Thrush from the Malay States :—

Monticola solitarius madoci, subsp. nov.

Description.—The adult males of the new race are entirely blue and without chestnut in the plumage. *M. s. madoci* is very near to *M. s. pandoo*, but it differs from that form exactly as would be expected of a Malayan subspecies. It is very slightly smaller (wings, male, 112, 113, 114 ; female, 107, 107, 110 mm.), a trifle darker in colour (the males very slightly darker blue on the throat and breast ; females slightly richer buff on the foreneck) ; and, most important of all, it has a more rounded wing, as befits a resident bird in comparison with a migratory race.

In *M. s. madoci* primary 2 is equal to or slightly longer than 7 ; 3, 4 and 5 are always very close, but 3 and 4 may be equal and very slightly longer than 5, or 4 may be very slightly longer than 3 and 5 ; 6 falls about midway between 2 and 4.

In well-preserved wings of *M. s. pandoo* (wintering birds

from Malaysia used for comparison) primary 2 is much longer than 7, and sometimes it is even longer than 6, occasionally it falls between 7 and 6 ; 3 is usually the longest feather in the wing, but 3 and 4 may be subequal and longest ; 5 is always shorter than 4.

Type.—Adult female, collected at the Batu Caves near Kuala Lumpur, Selangor, Malay States, on May 24, 1910. Mus. no. 1527/10.

Measurement of Type.—Wing 110 mm.

Remarks.—Mr. G. C. Madoc, an officer of the Malayan Police Service, is to be congratulated on the discovery of a resident breeding race of the Blue Rock-Thrush hundreds of miles south of the known breeding range of the species. He shot a female off eggs in the State of Kedah in February of this year, and later obtained a pair of birds. In a subsequent study of the Raffles Museum material I then found that three other skins, hitherto associated with the migratory *M. s. pandoo*, could be referred to this resident race. They are a pair from Selangor (May and January) and a male from the small island of Telibun off the west coast of Peninsular Siam (Jan.).

A new Race of Orange Thrush from the Sudan.

Mr. J. D. Macdonald sent the following description :—

Geokichla piaggiæ hadii, subsp. nov.

Description. — Differs from *Geokichla piaggiæ piaggiæ* (Bouvier) in being generally darker ; mantle more olivaceous ; dark parts of wing-coverts and flight-feathers blacker.

Distribution.—Imatong and Dongotona Mts., south-eastern Sudan.

Type.—In the British Museum. Male adult. Emogadung, Dongotona Mts., south eastern Sudan, April 9, 1939 ; collected by J. D. Macdonald. Brit. Mus. Reg. no. 1939.10.1.173.

Measurements of Type.—Wing 106, culmen from base 23, tail 90, tarsus 36 mm.

Remarks.—Named in honour of Mohamed Abdel Hadi, taxidermist of the Sudan Government Museum, who obtained the first specimen in the Imatong Mts.

Notes on Eastern African Birds.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed sent the following two notes :—

(1) On the Status of *Caprimulgus mossambicus* Peters, J. f. O. 1868, p. 134 : Inhambane, Portuguese East Africa, and *Crotenea fossii youngi* Roberts, Ann. Trans. Mus. xv. 1932, p. 26 : Livingstonia, western Nyasaland.

Mr. R. E. Moreau has invited our attention to the fact that although doubt has been cast on the validity of *C. mossambicus*, no decision has been arrived at.

Sclater, Syst. Av. Æthiop. i. 1924, p. 253, does not include it. Friedmann, Bull. 153, U.S. Nat. Mus. 1930, p. 309 ; Vincent, Ibis, 1934, p. 793, and Bowen, Proc. Ac. N. Sci. Philad. lxxxiii. 1931, p. 40, all confuse the two species *Caprimulgus fossii* and *Scotornis climacurus clarus*. Van Someren, Nov. Zool. xxix. 1922, p. 86, recognizes *C. f. mosambiquus*, and states that it is smaller than *C. f. fossii*, wings 145–152 mm. as against 155–165 mm. Both Van Someren and Friedmann use Lichtenstein's *nomen nudum C. mosambiquus*, which has long ago been sunk into the synonymy of *C. fossii*, instead of Peters' *C. mossambicus*.

Measurements of specimens in the British Museum collection from Gabon to Landana give 142–151 mm. ; Portuguese East Africa, 150–159 mm. ; Angola, 155–167 mm. ; and western Nyasaland as 147–166 mm. So that, although Gabon birds run smaller than the others, there is an overlap in measurements, as there is with those given by Van Someren, and as there is no colour character we are of the opinion that no races can be recognized, and that *Caprimulgus mossambicus* Peters and *Crotenea fossii youngi* Roberts must become synonyms of *Caprimulgus fossii* Hartert.

(2) On the Paradise Flycatchers of Eastern Africa, and the suggested hybridization of *Tchitrea nigriceps emini* (Reichenow) and *Tchitrea viridis* (Müller).

In the Syst. Av. Æthiop. ii. 1930, p. 432, Sclater places Reichenow's *Tchitrea perspicillata suahelica* as a race of *Tchitrea viridis* (Müller), and confines *Tchitrea perspicillata* (Swainson) to the southern parts of Africa with *Tchitrea*

plumbeiceps (Reichenow) as a race. Sclater & Praed, Ibis, 1918, p. 710, suggest that the chestnut-backed phase in *Tchitrea viridis* is not the adult, and that *Tchitrea perspicillata* and *Tchitrea plumbeiceps* are different species. They also consider that the Bahr-el-Ghazal birds belong to a West African form. Stresemann, J. f. O. 1924, p. 258, discusses the various phases, and on p. 259 and 260, under the name *T. albiventer*, gives a description of a variant, but without locality. *Terpsiphone albiventer* therefore preoccupies *Tchitrea albiventris* Stoneham, Bull. B. O. C. xlv. 1925, p. 76 : Bombo, Uganda.

Tchitrea poliothorax Reichenow, J. f. O. 1916, p. 161 : Bukoba, north-western Tanganyika Territory, must also be considered as another variant of *Tchitrea viridis ferreti*, and in the synonymy of which it should be placed.

In O. M. 1926, p. 87, Stresemann considers *T. plumbeiceps* and *T. viridis* to be conspecific. Salamonsen, Bull. B. O. C. liv. 1933, p. 48, confines his *Tchitrea viridis restricta* to Nkose Island. Pakenham, Bull. B. O. C. lviii. 1938, p. 100, places *Tchitrea suahelica* as a race of *Tchitrea viridis*, but suggests that it may be a race of *Tchitrea perspicillata*, and although he states (p. 102) that *Tchitrea perspicillata* and *Tchitrea plumbeiceps* are different species he does not treat them as such. Friedmann, Bull. 153 U.S. Nat. Mus. 1937, p. 245, states that he considers *Tchitrea plumbeiceps* to be a distinct species, but that *Tchitrea perspicillata* is a race of *Tchitrea viridis*. Sassi, Wiss. Erge. Exp. Grauer, Wien, KK. Nat. Hofm. xxx. 1916, p. 239, has spelt Reichenow's *Tchitrea suahelica* as *Tchitrea mahelica*. Almost all authors on African birds have had something to say on the plumage phases, and several hold to the opinion that the white phase is the fully adult.

These diverse views have caused us to examine carefully the series of over 500 specimens in the British Museum collection. The conclusions we have come to are that the colour changes of the male are only phases, and have nothing to do with age ; that there are four distinct species, i. e., *Tchitrea viridis* and races ; *Tchitrea perspicillata* and races ; and *Tchitrea plumbeiceps* and race ; and *Tchitrea restricta* ; and

that *Tchitrea suahelica* is a race of *Tchitrea perspicillata* as originally stated by Reichenow. The characters of this group have not yet become completely stabilized. For example, the colour phases of the male in the *Tchitrea viridis* group, the occasional trace of white on the wings in the *Tchitrea perspicillata* group (see specimen Brit. Mus. Reg. no. 1906.12.23.1556), and the dull instead of glossy chin and throat in a specimen of *Tchitrea perspicillata perspicillata* (see specimen Brit. Mus. Reg. no. 1911.12.23.1548. The species and races we are able to recognize are as follows :—

Tchitrea viridis viridis (Müll.).

Muscicapa viridis P. L. S. Müller, Syst. Nat. Suppl. 1776, p. 171 : Senegal.

Under tail-coverts dark chestnut. Tail has some white streamers in specimens from Sierra Leone. Wing 78–88 mm. Seventeen specimens examined.

Distribution.—Gambia and Senegal to Sierra Leone.

Tchitrea viridis ferreti Guérin.

Tchitrea ferreti Guérin, Rev. Zool. 1843, p. 162 : northern Abyssinia.

Under tail-coverts usually grey or pale chestnut ; chestnut and white-backed phases in male ; occasionally some buff, chestnut or tawny intermixed with the grey from chest to belly. Wing 73–91 mm.

Young birds in first dress are paler, have short paler crests and often no white on the wings. Some from the southern Sudan (*i. e.*, British Museum specimens nos. 1915.12.24.681, and 682, 682 *a*, and 1939.10.3.100) have very pale under wing-coverts, approaching some specimens of *Tchitrea perspicillata* in this respect, but as no adults of this species have been taken in the Sudan these young birds must belong to *Tchitrea viridis ferreti*.

Two hundred and twenty-one specimens examined.

Distribution.—Eritrea and British Somaliland to the Sudan (except south-western), Uganda, Kenya Colony, Tanganyika Territory and south-western and eastern Belgian Congo, north of 6° S. lat.

Tchitrea viridis speciosa (Cassin).

Muscicapa speciosa Cassin, Proc. Acad. Philad. for 1859, p. 48 : Camma River, Gabon.

Head more greenish, and chestnut of upper parts much darker than *Tchitrea viridis ferreti* ; black, grey, chestnut and white-backed phases in male. Wing 71–91 mm. One hundred and thirty-three specimens examined.

Distribution.—Ivory Coast, Gold Coast, to Gabon, Cameroon, Nigeria, French Equatorial Africa and south-western Sudan.

Tchitrea restricta Salamonsen.

Tchitrea viridis restricta Salamonsen, Bull. B. O. C. liv. 1933, p. 48 : Nkose Island, southernmost of Sese Islands, north-west Lake Victoria, Uganda.

Under tail-coverts dark chestnut, general coloration very dark ; tail has chestnut and white phases in male ; top of head sometimes white ; in some specimens chestnut intermixed with the grey and glossy blue-black from chest to belly. Wing 82–89 mm. Nine specimens examined.

Distribution.—Nkose Island to Entebbe, Uganda.

Tchitrea perspicillata perspicillata (Swainson).

Muscicapa perspicillata Swainson, Bds. W. Afr. ii. 1837, p. 59 : Duivenhoek River, Swellendam, Cape Province, South Africa.

No white on upper side of wings ; under wing-coverts, lower belly and under tail-coverts usually white, sometimes buffy or mixed with tawny ; upper side usually more tawny chestnut ; head and neck all round glossy blue-black in male ; in female chin and throat grey with a very slight glossy wash. Wing 73–85 mm. Thirty-four specimens examined.

Distribution.—Cape Province and Natal to eastern Transvaal, lower Zambesi, southern Portuguese East Africa and western and southern Nyasaland.

Tchitrea perspicillata suahelica (Reichenow).

Terpsiphone perspicillata suahelica Reichenow, in Werther, Mittl. Hochl. D. Ostafr. 1898, p. 275 : Kiboscho : south Kilimanjaro, north-eastern Tanganyika Territory.

Very rarely traces of white on upper side of wings ; head and neck all round violet blue-black in male ; in female top of head violet blue-black. Wing 75–82 mm. Fifteen specimens examined.

Distribution.—Eastern Tanganyika Territory from southern Kilimanjaro and the Usambara Mts., to Kilosa, Dar-es-Salaam, Kisiju 40 miles south of Dar-es-Salaam to Iringa and Njombe. Zanzibar Island.

Tchitrea perspicillata ruwenzoriæ Grant & Praed.

Tchitrea perspicillata ruwenzoriæ Claude Grant & Mackworth-Praed, Bull. B. O. C. lx. 1940, p. 93 : Mokia, south-east Ruwenzori, Uganda.

In both sexes top of head only glossy greenish blue-black ; chin to throat grey with a slight gloss ; rarely traces of white on the upper side of wing. Wing 75 to 82 mm. Sixteen specimens examined.

Distribution.—Western and south-western Uganda from Ruwenzori, near Entebbe, and Ankole to southern end Lake Victoria, and Kahé, Moshi, and Monduli, in north-eastern Tanganyika Territory.

Tchitrea plumbeiceps plumbeiceps (Reichenow).

Terpsiphone plumbeiceps Reichenow, in Wert. Mittl. Hochl. D. Ostafr. 1898, p. 275 : Milange, Angola.

Head grey, very slight wash of violet ; under wing-coverts, lower belly and under tail-coverts white, sometimes buffy or mixed with tawny. Wing 75–83 mm. Eleven specimens examined.

Distribution.—Northern Angola to Damaraland.

Tchitrea plumbeiceps violacea Grant & Praed.

Tchitrea plumbeiceps violacea Claude Grant & Mackworth-Praed, Bull. B. O. C. lx. 1940, p. 93 : Fort Hill, North Nyasa District, Nyasaland.

Central tail-feathers in adult males very greatly elongated, longer than any other Paradise Flycatcher ; top of head distinctly glossy and with a brighter wash of violet. Wing 73 to 88 mm. Sixty-five specimens examined.

Distribution.—Bechuanaland, Northern and Southern Rhodesia, Portuguese East Africa, and south-eastern Belgian Congo to Nyasaland, Tanganyika Territory, coastal area of Kenya Colony as far north as the Tana River, west to Uelle River and Cameroon at the River Ja. Pemba and Mafia Islands.

Hartert, Bull. B. O. C. xliv. 1923, p. 24, mentions four specimens from the Kakamega Forest and Yala River, western Kenya Colony, Entebbe, Uganda, and north-western Tanganyika Territory, and states that these might be either hybrids between *Tchitrea viridis ferreti* and *Tchitrea emini* or aberrant varieties or mutations. Van Someren, Nov. Zool. xxix. 1922, p. 105, states that "undoubted hybrids between *T. emini* and *ferreti* occur," and of fifty specimens considers five are such crosses; and in Nov. Zool. xxxvii. 1932, p. 299, states that *Tchitrea emini* "undoubtedly crosses with *viridis*." The localities Van Someren gives for *Tchitrea emini* are all in Uganda.

In the British Museum collection are five birds having more or less chestnut, or tawny, or buff, or whitish mixed with the grey on the chest to belly and under wing-coverts; two of these are *Tchitrea viridis ferreti* from Kampala (Brit. Mus. Reg. nos. 1923.8.7.1556 and 1557); two *Tchitrea restricta* from Entebbe (Brit. Mus. Reg. nos. 1906.12.11.51 and 1933.5.29.27), the latter having the under wing-coverts (except edges of the wings) and axillaries tawny, and one *Tchitrea viridis speciosa* from Kogum, Plateau Province, Northern Nigeria (Brit. Mus. Reg. no. 1928.7.20.119). Colonel Meinertzhagen has kindly allowed us to examine a specimen in his collection of *Tchitrea restricta* which agrees very closely with the specimen in the British Museum Collection (Brit. Mus. Reg. no. 1933.5.29.27).

As far as we know *Tchitrea nigriceps emini* is confined to southern Uganda and north-western Tanganyika Territory, and therefore the two specimens recorded by Hartert from western Kenya Colony and the one in the British Museum collection from northern Nigeria cannot be crosses with that race.

We are quite unable to agree that there is sufficient evidence to show that any hybridization occurs—in fact the evidence of the western Kenya Colony specimens is opposed to it. Moreover, if hybridization does occur, would not a restricted race like *Tchitrea nigriceps emini* have long ago been swamped by *Tchitrea viridis ferreti* or vice versa, and would there not be many more hybrids than typical birds? We agree with Hartert when he says that they might be "aberrant varieties or mutations," and we consider them merely to be colour phases.

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